REFERENCES

ARACHIS
PEANUT

Arachis hypogaea

1. Potter (B5) says that it is also known as Ground nuts, Monkey nuts or Earth nuts. The oil expressed from the nut is used. It is largely a substitute for olive oil, but is liable to go rancid.

2. Stuart (B28) says that although the peanut is now one of the best known and universally grown nuts, it was not until 1840 that Jaubert, a French colonist of Cape Verde, suggested its importation into Marseilles as a seed oil. The first to mention the plant was Fernandez de Oviedo y Valdes who lived in Haiti from 1513 to 1525 and reported that the Indians widely cultivated the mani - a name for Arachis still used in South America and Cuba. It is a South American native, widely cultivated, especially India, Africa, China and America. Contains Peanut or Arachide oil, consisting of the glycerides of four fatty acids. The oil is nutritive, the seed an important foodstuffe. Used as a substitute for olive oil.

3. Trease and Evans (B37) B37. W.C.Evans: Trease and Evans, Pharmacognosy. 13th edition. Balliere Tindall ISBN 0-7020-1357-9. They report that the oil is obtained by the expression of the oil from the seeds of Arachis hypogaea (or earth-nut, ground-nut, pea-nut), a small annual plant cultivated throughout tropical Africa and in India, Brazil, southern USA and Australia. Various genotypes exist which show differences in the amount of fatty acids contained in the oil. Arachis oil consists of the glycerides of oleic, linoleic, palmitic, arachidic, stearic, lignoceric and other acids. The main uses of Arachis oil is as an adulterant of olive oil and for cooking purposes.

4. Harry (B52) says that arachis oil may be used as a substitute for almond or olive oil in cosmetic creams, brilliantine, lubricating and anti-wrinkle oils, skin foods, sunburn preparations etc. In experiments on skin penetration no evidence was found of any appreciable difference between the vegetable oils, arachis, avocado, castor, grapeseed, olive or turtle. Arachis oil is dermatologically innocuous. It is a very useful emollient which possesses neither primary irritant, nor sensitizing properties.

5. In the CTFA Ingredient Handbook (B63) we read that Peanut Oil is the refined fixed oil obtained from the seed kernels of one or more of the cultiovated varieties of Arachis hypogaea. It is listed as a skin conditioning agent - occlusive; solvent.

6. Merck (B54) says that it consists of glycerides of the following fatty acids:- palmitic 8.3%, stearic 3.1%, arachidic 2.4%, behenic 3.1%, lignoceric 1.1%, oleic 56%, linoleic 26%. Traces of lauric and capric acids have been reported. It also contains unsaponifiable matter (0.8%) namely, tocopherols 0.022 -0.059%, sterols 0.19 - 0.25%, squalene 0.027% and other hydrocarbons. It very slowly thickens and becomes rancid on exposure to the air. It is used in foods, margerine, soaps and paint. It is used as a solvent in pharmacy.

7. In the British Pharmaceutical Codex (1973) the composition of the oil is given. It is also stated that Arachis oil has properties similar to that of olive oil and is used for the same purposes.

8. In a data sheet from Anglia Specialty oils: Oils of the world, we read:

ARACHIS OIL BP
CTFA Name: Peanut Oil
CAS NO. 8002-03-7
EINECS No. 232-296-4

Arachis or peanut oil is produced in countries situated in the world's warm temperature zones though it is thought to have originated in South America before being carried to other areas during the 16th century. It is used mainly in the food industry but the same properties that give it a high nutritional profile enhance its utility as an effective base or carrier for active principles, fragrances and pharmaceutical. It contains a wide variety of fatty acids, some of which are almost unique to this oil.

9. PAGB (Proprietary Association of Great Britain). Circulation number 94/125, date 5th September 1994. "Peanut oil in topical medicines".

Summary

- A MAFF information campaign encourages food manufacturers to declare nuts on packaging where relevant.

- Some topical medicines contain peanut oil (arachis oil) as an excipient or an active

- Current information indicates some individuals would have a potentially fatal allergic reaction to ingestion.

- Reaction to topical application is unclear

- Funds have been requested by SCOPA to answer this question.
(Seed Crushers and Oils Processors Association).

I have contacted MAFF and obtained "Foodsense" leaflets dealing directly with food allergy and review of current literature dealing with nut allergies. They are not particularly helpful as they deal with mainly additive reactions. The advice does not employ scare tactics.

The nut allergies review is more relevant and states that only a small proprtion of the population are affected, so creating a situation where information rather than action is more appropriate. As this paper deals with foods there is no reference to topical application. Additionally the culprit in allergic reactions has not been satisfactorily identified, there are conflicting reports where a reaction has been found and there is some question over whether the degree of refinement of an oil and the concentration would affect allergenic properties.

This report cites a food supplement, using peanut oil as a medium, as representative of the lack of information regarding doses of allergens required to cause a reaction. This section concludes that low levels of allergen would be unlikely to cause a reaction. The report then describes a test where peanut oil failed to initiate a response in both puncture skin tests and oral tests. It should be noted that the study numbers were insufficient to be 95% certain. The SCOPA study is a similar design.

In conclusion, there are very few people affected by ingestyion of peanuts and little evidence to suggest that topical application of peanut oil would elicit a reaction, potentially fatal or otherwise. Additionally, the allergen involved has not been accurately identified, nor the quantities required to cause an effect. Furthermore, the degree of refinement of peanut ils may remove the offending allergen.

MAFF were requested to keep them informed of any further developments.

Dianna Fraley, SCOPA, 6 Catherine Street, London WC2B 5JJ
Erica Smith - Regulatory Affirs Executive, PAGB (originator of letter)

10. Albert Leung: Traditional Chinese Medicine. Herbalgram No.26, p.34. 1992.

Use of fresh peanut shoots in treating insomnia. Sichuan Zhongyi, 8(11): 29-30,(1990). This is a report by Yang Ceming of the Nuclear Industry No. 416 Hospital in Chengdu. Yang tried peanut shoots on his patients suffering from insomnia and found the treatment to be fast, effective, simple, and economical with no adverse side effects.

Method: Place 30g fresh young shoots in a teacup and pour in 150 ml boiling water. Drink tea one hour before retiring at night. It normally takes two-three days to take effect.

11. PAGB (Proprietary Association of Great Britain). Circulation number 94/125, date 5th September 1994. "Peanut oil in topical medicines".

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Dianna Fraley, SCOPA, 6 Catherine Street, London WC2B 5JJ
Erica Smith - Regulatory Affairs Executive, PAGB (originator of letter)

12. Prasanna HA Amla I Indira K Rao MN: Studies on microatomized protein foods based on blends of low fat groundnut, soy, and sesame flours, and skin-milk powder and fortified with vitamins, calcium salts, and limiting amino acids. V. Relative efficacy in the treatment of kwashiorkor. Am J Clin Nutr (1968 Dec) 21(12):1355-65. [No Abstract Available]

13. Bell CM Skerrow CJ: Factors affecting the binding of lectins to normal human skin. Br J Dermatol (1984 Nov) 111(5):517-26.

Factors affecting the binding of a wide range of lectins to normal human skin were examined in order to evaluate current discrepancies in the literature. The profile of specific binding characteristic for each lectin was found to be variously influenced by the source of conjugate, tissue-processing method, the effectiveness of saccharide inhibitors, and by individual and minor body site variations. Most significantly, the use of routine histological processing not only greatly reduced binding intensity overall but also altered the binding pattern.

14. Morrison AI Keeble S Watt FM: The peanut lectin-binding glycoproteins of human epidermal keratinocytes. Exp Cell Res (1988 Aug) 177(2):247-56.

Peanut lectin (PNA) is known to bind more strongly to keratinocytes that are undergoing terminal differentiation than to proliferating keratinocytes, both in intact epidermis and in culture. In order to investigate the significance of this change in cell-surface carbohydrate we have identified the PNA-binding glycoproteins of cultured human keratinocytes and raised antibodies against them. Two heavily glycosylated bands of 110 and 250 kDa were resolved by PAGE of [14C]galactose- or [14C]mannose- and [14C]glucosamine-labeled cell extracts eluted with galactose from PNA affinity columns. The higher molecular weight band was also detected on PNA blots of unlabeled cell extracts transferred to nitrocellulose. Both bands were sensitive to Pronase digestion, but only the 250-kDa band was digested with trypsin. A rabbit antiserum that we prepared (anti-PNA-gp) immunoprecipitated both bands from cell extracts. In contrast to PNA, anti-PNA-gp bound equally to proliferating and terminally differentiating cells, indicating that some epitope(s) of the PNA-binding glycoproteins is present on the cell surface prior to terminal differentiation. When keratinocytes grown as a monolayer in low-calcium medium (0.1 mM calcium ions) were switched to medium containing 2 mM calcium ions in order to induce desmosome formation and stratification, there was a dramatic redistribution of the PNA-binding glycoproteins, which became concentrated at the boundaries between cells. This may suggest a role for the glycoproteins in cell-cell interactions during stratification.

15. Hefle SL Helm RM Burks AW Bush RK: Comparison of commercial peanut skin test extracts. J Allergy Clin Immunol (1995 Apr) 95(4):837-42.

BACKGROUND: Skin prick testing is a major tool for diagnosing food allergy. Food allergen extracts have not been standardized; this may lead to great variability in the predictive accuracy of skin prick tests. METHODS: Six commercial peanut skin test extracts were compared in vitro with RAST inhibition assays, ELISA, and sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) followed by immunoblotting with sera from peanut-allergic adults and in vivo by skin prick testing. RESULTS: ELISA showed that the content of peanut allergens Ara h I and Ara h II in the extracts ranged from 0.0015 to 0.0236 and 0.0001 to 0.0164 mg Eq/ml, respectively. RAST inhibition studies showed that the extracts produced curves of similar slope, suggesting conservation of allergenic epitopes. SDS-PAGE revealed differences in protein profiles because roasted extracts generally possessed the same number and proportion of major protein bands but raw extracts varied more in both respects. SDS-PAGE and immunoblotting showed that two of the extracts contained major IgE-binding protein bands that did not appear in the others. One roasted extract gave little protein banding and consequently little IgE binding. CONCLUSIONS: Skin testing results showed no differences in the ability of the extracts to provoke a positive skin test response in peanut-sensitive subjects.

16. Sampson HA Albergo R: Comparison of results of skin tests, RAST, and double-blind, placebo-controlled food challenges in children with atopic dermatitis. J Allergy Clin Immunol (1984 Jul) 74(1):26-33.

Forty children with atopic dermatitis were evaluated for clinical evidence of hypersensitivity to foods by double-blind, placebo-controlled food challenges. Twenty-four children (60%) experienced 33 positive challenges, manifested by cutaneous symptoms in 31 (94%), gastrointestinal symptoms in 14 (42%), nasal symptoms in nine (27%), and respiratory in six

(18%). Results of prick skin tests (STs) and RASTs to eight food antigens frequently eliciting hypersensitivity reactions were compared with those from food challenges to determine the diagnostic accuracy in children with atopic dermatitis. Defining a positive ST as a wheal 3 mm larger than the negative control wheal and a positive RAST as a Phadebas RAST score of 3 or 4, the sensitivity, specificity, and predictive accuracies of these tests were found to be comparable except in the case of wheat antigen where the ST was clearly superior to the RAST. Accepting a RAST score of 2 or more as a positive slightly improved sensitivity in some cases but dramatically decreased specificity. Combining results of STs and RASTs did not improve significantly the diagnostic accuracy over results of the tests used individually. These studies demonstrate no advantage of RAST alone or in combination with prick skin testing over prick skin testing alone in the evaluation of food hypersensitivity in children with atopic dermatitis. Furthermore, skin testing should be considered a good test for excluding immediate food hypersensitivity but only a suggestive positive indicator of hypersensitivity due to the high rate of clinically insignificant positive STs.

17. Kanitakis J Roche P Thivolet J: The expression of PNA-lectin binding sites and S-100 protein in histiocytic lesions of the skin. A comparative immunohistochemical study. Acta Derm Venereol (1988) 68(1):1-7.

In this work the potential usefulness of antibodies to S-100 protein and the lectin Peanut Agglutinin (PNA) in the differential diagnosis of histiocytic lesions of the skin was assessed. Out of 54 deparaffinized specimens studied through an avidin-biotin-alkaline phosphatase technique, 35 proved to comprise S-100 (+) and 12 PNA (+) cells. The results show that antibodies to S-100 protein are useful in distinguishing the "X" (Langerhans' cell) from the "non-X"types of histiocytosis, and cast some shadow on the usefulness of the lectin PNA as a histiocytic marker. (Received May 5, 1987.)

18. Kalliel JN Klein DE Settipane GA: Anaphylaxis to peanuts: clinical correlation to skin tests. Allergy Proc (1989 Jul-Aug) 10(4):259-60.

To determine the prevalence of peanut sensitivity in a group of patients referred for routine allergy evaluation, we skin tested 365 consecutive patients with a battery of extracts that included pollens, danders, mold, dust and peanuts. These patients were seen either in private practice or in the Allergy Clinic (Rhode Island Hospital). Of these 365 patients, 248 were found to be atopic. Eight patients had a positive scratch test to peanut extract, and four of these had a positive history of peanut sensitivity. One asymptomatic patient to peanut by history reacted to open challenge with 2 oz of peanut on two occasions. We, therefore, found that 3.2% (8 of 248) of our atopic patients had a positive skin test to peanuts and of these at least 62.5% (5 of 8) had clinical sensitivity to peanuts. No nonatopic patient reacted to peanut skin testing.

19. Kannon G Park HK: Utility of peanut agglutinin (PNA) in the diagnosis of squamous cell carcinoma and keratoacanthoma. Am J Dermatopathol (1990 Feb) 12(1):31-6.

Lectins are glycoproteins that bind to specific carbohydrate groups on cell surfaces. Peanut lectin (PNA) binds to carbohydrates on the membranes of normal keratinocytes. Recently, some authors have proposed that PNA may be a useful marker to help differentiate keratoacanthomas

from well-differentiated squamous cell carcinomas of the skin. We studied a total of 34 skin biopsy specimens, including 11 keratoacanthomas, 15 well-differentiated squamous cell carcinomas, and 8 poorly differentiated squamous cell carcinomas, using peanut lectin with the avidin-biotin complex (ABC) peroxidase technique. All keratoacanthomas demonstrated uniform positive membrane staining of keratinocytes, which was identical to PNA staining in normal skin. Keratinocytes in 80% of the well-differentiated squamous cell carcinomas and keratinocytes in all the poorly differentiated squamous cell carcinomas did not stain. With prior digestion by neuraminidase, however, positive membrane staining for PNA was demonstrated in the squamous cells of all well-differentiated squamous cell carcinomas and all but one case of the poorly differentiated squamous cell carcinomas. Our results support the efficacy of PNA in most cases as a marker to aid in the often difficult histologic differentiation of keratoacanthoma from well-differentiated squamous cell carcinoma. Our findings also support those of previous authors who suggested that the negative PNA stain of malignant squamous cells is not the result of a lack of PNA receptors, but is due instead to a masking of receptor sites by terminal sialic acid residues.

20. Gordon BB Pena SD: The surface glycoproteins of human skin fibroblasts detected after electrophoresis by the binding of peanut (Arachis hypogaea) agglutinin and Ricinus communis (castor-bean) agglutinin I. Biochem J (1982 Nov 15) 208(2):351-8.

A new methodology was developed to study the cell-surface glycoproteins of cultured human skin fibroblasts. This was based on the binding of a variety of biotinyl-lectins to nitrocellulose electrophoretic transfers of total fibroblast lysates after separation in sodium dodecyl sulphate/polyacrylamide gels, followed by reaction with avidin-biotinyl-peroxidase complexes and detection with 3,3'-diaminobenzidine. The technique proved to be very sensitive and a large number of glycoproteins were detected by binding of concanavalin A and wheat-germ agglutinin. Binding of peanut agglutinin and to a lesser extent of Ricinus communis agglutinin I were found to be dependent on prior removal of sialic acid residues from the glycoproteins. Since by treatment of intact viable cells with neuraminidase only external sialic acid residues were removed, peanut agglutinin and Ricinus communis agglutinin I could thus be utilized for selective detection of cell-surface glycoproteins. Also, because peanut agglutinin was known to bind preferentially to oligosaccharides of the O-glycosidic type, and Ricinus communis agglutinin I to those of the N-glycosidic type, the two lectins were complementary in displaying the surface glycoproteins and in providing information about their oligosaccharide composition.

21. Watt FM Jones PH: Changes in cell-surface carbohydrate during terminal differentiation of human epidermal keratinocytes. Biochem Soc Trans (1992 May) 20(2):285-8. [No Abstract Available]

22. Lasne C Nguyen-Ba G Oueslatti R Chouroulinkov I: Inhibition of chemically-induced skin carcinogenesis in mice by peanut oil preparations. Bull Cancer (Paris) (1991) 78(3):237-47. Epidermal hyperplasia and sebaceous gland destruction - good indicators of carcinogenic potential - were studied in short-term mouse skin experiments following application of BaP and TPA dissolved either in a peanut oil mixture or in acetone. Subsequently, the carcinogenicity of BaP and DMBA alone or in association with TPA was dissolved in the same vehicles, and determined in mouse long-term skin tests. In parallel, ODC activity and binding to DNA, RNA

and proteins were examined in epidermal cells after exposure to TPA and BaP respectively. When the peanut oil excipient was used as a solvent, a complete inhibition of BaP and TPA activities was observed in short-term skin tests, as well as a complete inhibition of BaP, DMBA and TPA carcinogenicity in long-term tests. TPA-induced ODC activity was suppressed by the peanut oil mixture while BaP binding to nucleic acids and proteins of epidermal cells was only slightly inhibited. These results indicate that the excipient possesses anti-carcinogenic potentials for epidermal cells. The persistence of BaP binding to macromolecules in epidermal cells without tumor development suggests that the carcinogenic action of BaP may include both genotoxic and epigenetic mechanisms.

23. Aas K: The diagnosis of hypersensitivity to ingested foods. Reliability of skin prick testing and the radioallergosorbent test with different materials. Clin Allergy (1978 Jan) 8(1):39-50.

The diagnostic reliability in food allergy of skin prick tests (SPT) and the radio-allergosorbent test (RAST) was investigated in paediatric patients with respiratory and skin allergies. SPT and RAST were found to be reliable for the diagnosis of allergy to codfish, peas, nuts, peanuts and egg white. Positive SPT and RAST to cereals were common, but were most often without clinical significance or were correlated with respiratory allergy to the inhalation of flour dust. SPT and RAST were only partly reliable with regard to allergy to cow's milk, and were mostly reliable when used together and showing corresponding results. Experimental allergosorbents for RAST with soy beans and white beans were not reliable. The study shows the need to improve the diagnostic materials and to establish the diagnostic reliability of the material and tests used for each food item in question.

24. Bock SA Buckley J Holst A May CD: Proper use of skin tests with food extracts in diagnosis of hypersensitivity to food in children. Clin Allergy (1977 Jul) 7(4):375-83.

This study was undertaken to determine the proper use of skin tests with food extracts in diagnosis of hypersensitivity to food in children. Cutaneous reactions evoked by graded amounts of food extracts were compared with results of double-blind food challenge and in vitro release of histamine from leucocytes. A 3 mm or greater weal reaction in skin tests by puncture technique using food extracts of 1:20 w/v concentration was found to indicate the degree of hypersensitivity likely to be associated with clinically significant hypersensitivity reactions to food. Proper use of this simple technique will facilitate accurate diagnosis of food hypersensitivity in children by identifying the group among whom all positive reactions to food challenges will be found. Nevertheless, double-blind food challenge is essential to establish a diagnosis of symptomatic hypersensitivity to food.

25. Kemp AS Mellis CM Barnett D Sharota E Simpson J: Skin test, RAST and clinical reactions to peanut allergens in children. Clin Allergy (1985 Jan) 15(1):73-8.

One-hundred-and-four children were skin-tested with four peanut-allergen preparations, a commercial extract, extracts of raw and roast peanuts prepared by NH4HCO3 extraction, and a wheatgerm lectin-reactive glycoprotein obtained by affinity chromatography. The presence of symptoms after ingestion of peanut or peanut products was also recorded. The roast allergen

extract provided the greatest specificity with eight symptomatic children having a positive skin test and only one positive skin-test reaction in an asymptomatic child in the group of 104 children tested. Despite differences in the incidence of skin-test reactions there was a strong correlation between raw, roast and commercial RAST suggesting common allergens were being identified by circulating IgE. Clinical sensitivity was observed particularly in younger children with 75% of the children being under 4 years of age. A positive roast skin test or a RAST test adds confirmation to the clinical history of allergic reactions to peanuts.

26. Oranje AP Van Gysel D Mulder PG Dieges PH: Food-induced contact urticaria syndrome (CUS) in atopic dermatitis: reproducibility of repeated and duplicate testing with a skin provocation test, the skin application food test (SAFT). Contact Dermatitis (1994 Nov) 31(5):314-8.

IgE-mediated contact urticaria syndrome (CUS) is one of the manifestations of allergy in childhood atopic dermatitis (AD). Allergens such as foods and animal products penetrate the skin easily. They can then cause urticarial reactions in sensitized individuals. A provocation test system for foods, called the skin application food test (SAFT), has been developed. Over more than 5 years, a group of 175 patients with AD was built-up and investigated in a prospective follow-up study with SAFT. SAFT was more frequently positive in AD children aged 0-2 years than in older children. In several children of this population (Group 1), we repeated SAFT within a period of 1 year. In another unrelated group of children (Group 2-1), we compared the results of 'original' SAFT and SAFT using square chambers (Van der Bend) or Silver patches. In the 3rd group (Group 2-2) we compared 'original' SAFT with SAFT using big Finn Chambers. The agreement between the tests was high: in Group 1, we observed 88 to 93% concordant scores, and in Group 2, the scores were 96% to 100%. Statistically, the kappa coefficient ranged from 0.71-0.87 in Group 1, and from 0.83-1.00 in Group 2. SAFT is therefore highly reproducible. Agreement was at least > or = 88% between the scores (the lowest kappa value observed was at least 0.71).

27. Vidal BC de Carvalho HF: Hydrophobia, lectin binding, and molecular order in the stratum corneum of adult and neonatal rats and in human breast cells in culture. Gegenbaurs Morphol Jahrb (1990) 136(5):547-63.

A search for differences due to ANS staining (hydrophobia), Con A and PNA binding capacity, and birefringence was carried out on stratified epithelia of rat skin and human breast cells (HBC) in culture. Microfluorimetric measurements confirm that the ANS fluorescence of the stratum corneum from adults is higher than that of newborns. HBC exhibited an unexpected deep ANS-fluorescence. Differences in the binding capacity of the epithelial layers to Con A and PNA were detected with advancing age. Retardation measurements revealed that the form birefringence of the stratum corneum is higher in adult animals specially as revealed by the fact that its form birefringence curve branch from n = 1.414 to n = 1.479 is steeper, i.e. depict higher values. The strong birefringence of the cytoplasmic tonofilaments presented by cultured human breast cells was considered an unexpected finding and attributed to changes that the cells underwent following the in vitro conditions.

28. Gothelf Y Sharon N Gazit E: A subset of human cord blood mononuclear cells is similar to

Langerhans cells of the skin: a study with peanut agglutinin and monoclonal antibodies. Hum Immunol (1986 Feb) 15(2):164-74.

Mononuclear cells were fractionated from human cord blood by affinity chromatography on immobilized peanut agglutinin, as previously described (Rosenberg et al., Hum Immunol 7:67, 1983). The PNA+ subset was found to be composed mainly of a population of cells phenotyped as Ia+, T6+, M01+, and MY4+. The presence of mononuclear cells coexpressing these antigens was demonstrated by three techniques: double labeling immunofluorescence using FITC and rhodamine conjugated goat antimouse IgG; fluorescence activated cell sorter (FACS); and by direct counting (under the microscope) of cells stained by either individual or a combination of a variety of monoclonal antibodies. The PNA+ cells expressed cytoplasmic structures similar to Birbeck granules. In view of the fact that Langerhans cells of the skin share a similar phenotype and express Birbeck granules, we suggest that this subset may be the precursor of the Langerhans cells of the skin. In addition, these cells may also be the precursors of the dendritic cells found in the spleen, lymph nodes, thymus, and liver.

29.Ghanekar SP Korgaonkar KS: Radioprotective effect of groundnut oil on skin. Indian J Cancer (1972 Sep) 9(3):216-22. [No Abstract Available]

30. Hill GM Utley PR Newton GL: Digestibility and utilization of ammonia-treated and urea-supplemented peanut skin diets fed to cattle. J Anim Sci (1986 Sep) 63(3):705-14.

A metabolism study and two feedlot trials were conducted to evaluate urea supplementation of peanut skin (PS) diets and ammoniation of PS as methods of reducing detrimental effects of tannins in PS on nutrient digestibility and performance of beef cattle. Tannin content of PS was reduced by 42% after ammoniation. Digestibility coefficients for dry matter, crude protein, nitrogen free extract, energy and total digestible nutrients were higher (P less than .05) for the control diet without PS compared with urea-supplemented PS (UPS) and ammoniated PS (APS) diets. Ether extract digestibility was higher (P less than .05) for UPS and APS diets compared with the control diet. Fecal N was higher (P less than .05) and N retention was lower (P less than .05) in steers fed UPS and APS diets compared with controls, which suggested that in UPS and APS diets dietary protein was being complexed with tannins and excreted. Steers fed the APS diet had lower (P less than .05) plasma urea nitrogen compared with control and UPS diets at 2, 4 and 6 h post-feeding. Eighteen heifers were fed control, UPS and APS diets individually for 84 d, resulting in similar (P less than .05) feedlot performance and carcass traits for heifers on all dietary treatments. Rumen fluid propionic acid levels were similar for control and APS heifers and somewhat lower (P greater than .05) for UPS heifers at 3 and 6 h post-feeding on d 62 of the trial. The experimental diets were fed to 54 steers (360 kg initial wt) ad libitum. After 98 d on dietary treatments average daily gains (ADG), final weights, carcass weights and carcass quality grades were not different (P greater than .05) for control and APS steers. Live weight and ADG were lower (P less than .05) for UPS steers on d 98 compared with control and APS steers, and UPS steers continued in the feedlot through d 147. After 98 d on control or APS diets 72.2% of the beef carcasses produced on each diet graded USDA Choice, and 100% of the carcasses of steers fed UPS graded USDA Choice after 147 d. A urea-supplemented PS diet or a diet containing ammoniated PS was ineffective in improving digestibility and N retention of PS diets when limit-fed to steers. However, ad libitum feeding of an ammoniated PS diet was

effective in overcoming detrimental effects of tannins on feedlot performance of heifers and steers.

31. Hill GM Utley PR Newton GL: Influence of dietary crude protein on peanut skin digestibility and utilization by feedlot steers. J Anim Sci (1986 Apr) 62(4):887-94.

Peanut skins were fed at 15% of steer diets in metabolism and feedlot trials. Elevation of dietary protein using soybean meal or soybean meal plus urea and ammoniation of skins were evaluated as methods of overcoming detrimental performance and digestibility effects of tannins in peanut skins. Digestibility of dry matter, crude protein and energy were not different (P greater than .05) for steers fed a control diet with 11.4% crude protein with no skins compared with high-protein 15% peanut skin diets with soybean meal (15.5% crude protein) or soybean meal plus urea (16% crude protein). Dry matter, crude protein and energy digestibilities of control and of high-protein peanut skin diets were higher (P less than .05) compared with an 11.4% crude protein peanut skin diet and a 12.2% crude protein diet with ammoniated peanut skins. Ether extract digestibility was higher (P less than .05) for all peanut skin diets compared with the control. Nitrogen retention (g/d) was not different (P greater than .05) for control and high-protein peanut skin diets, and nitrogen retention on these diets was higher (P less than .05) compared with the lower protein and ammoniated peanut skin diets. Diets fed in the metabolism trial, except for the ammoniated peanut skin diet, were fed to 96 steers (345 kg initial wt) in a 109-d feedlot trial. Performance was lower (P less than .05) for steers fed the lower-protein peanut skin diet compared with other treatments through d 56; this diet was discontinued as a treatment on d 62.(ABSTRACT TRUNCATED AT 250 WORDS).

32. Watt FM Keeble S Fisher C Hudson DL Codd J Salisbury JR: Onset of expression of peanut lectin-binding glycoproteins is correlated with stratification of keratinocytes during human epidermal development in vivo and in vitro. J Cell Sci (1989 Oct) 94 (Pt 2):355-9.

During gestation the epidermis develops from a single layer of ectoderm into a layer of keratinocytes overlaid by a layer of periderm; this is followed by a progressive increase in the number of layers of keratinocytes, until finally the distinct granular and cornified layers characteristic of mature epidermis are formed. As part of our investigation into the function of the peanut lectin-binding glycoproteins of cultured human keratinocytes, we have examined their expression at different stages of human epidermal development. We found that the onset of expression of the glycoproteins coincided with the transition from a two- to a three-layered epidermis, both in vivo and in organ culture. In adult epidermis, the patterns of binding of peanut lectin and Limax flavus lectin are complementary, with peanut binding more strongly to suprabasal keratinocytes and Limax flavus lectin binding more strongly to cells in the basal layer. We found that the complementary pattern of binding of the two lectins was established at, or shortly after, the onset of stratification and retained throughout development. In contrast, expression by keratinocytes of involucrin, a protein precursor of the cornified envelope, occurred after stratification had begun. Finally, we identified the peanut lectin-binding glycoproteins of adult epidermis by immunoblotting with an antiserum raised against the glycoproteins of cultured neonatal keratinocytes. In conclusion, expression of the peanut lectin-binding glycoproteins is an early event in epidermal development, and this would be consistent with a role for the glycoproteins in stratification.

33. Vigneswaran N Haneke E Peters KP: Peanut agglutinin immunohistochemistry of basal cell carcinoma. J Cutan Pathol (1987 Jun) 14(3):147-53.

103 biopsies of basal cell carcinomas (BCCs) were studied using peanut agglutinin (PNA), PNA antibody and the peroxidase-antiperoxidase technique; 53 specimens of various skin tumors were examined as controls; 96% of the BCCs showed a band-like peritumorous reaction not seen in any other tumor except for the Pinkus' fibroepithelioma. The peritumorous PNA-binding was continuous in 51% of the BCCs studied and discontinuous in 45%; only 4% were completely negative. Both fibroepitheliomas revealed a discontinuous PNA-positive band. A narrow basement membrane-like positivity was seen around some small hair follicles situated within 2 neurofibromas and under one seborrhoeic keratosis. The PNA-binding band is apparently neither fibronectin, laminin, Type IV or Type V collagen and is not a constituent of normal epidermal, adnexal and vascular basement membranes.

34. Schaumburg-Lever G Alroy J Ucci A Lever WF: Cell surface carbohydrates in proliferative epidermal lesions. II. Masking of peanut agglutinin (PNA) binding sites in solar keratoses, Bowen's disease, and squamous cell carcinoma by neuraminic acid. J Cutan Pathol (1986 Apr) 13(2):163-71.

Seventy-six skin biopsies of proliferative lesions were studied by using 4 different lectins and an avidin-biotin-peroxidase complex. In solar keratosis, Bowen's disease and squamous cell carcinoma, malignant-appearing keratinocytes exhibited loss of membrane staining with Concanavalia ensiformis agglutinin (Con A), but revealed cytoplasmic staining. When incubated with peanut agglutinin (PNA), the malignant keratinocytes did not stain. However, the PNA binding sites were not absent, but masked by sialic acid. Following cleavage of the sialic acid with neuraminidase, free PNA binding sites could be demonstrated in the plasma membranes. In contrast, the keratinocytes in keratoacanthomas showed membrane staining with Con A and also contained free PNA binding sites. These histochemical findings confirm and extend our earlier observations regarding cell surface carbohydrates in premalignant and malignant epidermal lesions.

35. Ariano MC Wiley EL Ariano L Coon JS 4th Tetzlaff L Coon JS: H, peanut lectin receptor, and carcinoembryonic antigen distribution in keratoacanthomas, squamous dysplasias, and carcinomas of skin. J Dermatol Surg Oncol (1985 Nov) 11(11):1076-83.

The distribution of blood group antigen H(O), peanut lectin receptor (PNL-R) (a precursor to the MN blood group antigens), and carcinoembryonic antigen (CEA) was examined in 15 squamous cell carcinomas, 10 keratoacanthomas, 17 squamous dysplasias, and 5 normal controls using immunoperoxidase techniques. All controls and 8 carcinomas, 10 keratoacanthomas, 14 dysplasias expressed H antigen. All controls and 9 carcinomas, 10 keratoacanthomas, 16 dysplasias expressed PNL-R antigen. CEA was present in 15 carcinomas, in trace amounts in 3 keratoacanthomas, in 6 dysplasias, and in 0 controls. The staining for H antigen and PNL-R in the carcinomas and dysplasias was disorganized, patchy, and less than that of normal epithelium, while staining in keratoacanthomas was uniform, with normal to increased intensity as compared to controls in 9 cases. CEA showed weak focal staining in 5 carcinomas, 8 dysplasias and 3

keratoacanthomas, and more intense and extensive cytoplasmic and membrane staining in 10 carcinomas and 5 dysplasias, and no cellular staining in 4 dysplasias and 7 keratoacanthomas. CEA was present in greatest amounts in the well-differentiated carcinomas and focal in the less-differentiated tumors. The well-differentiated carcinomas had a greater percentage of cells staining for H antigen and PNL-R. The pattern of staining for H, PNL-R, and CEA appears to distinguish keratoacanthomas from carcinomas and squamous dysplasias, and may be a useful adjunct to diagnosis.

36. Casanovas M Bel I Maranon F Berrens L: Estimation of IgE antibodies to the common allergens by reverse enzyme immunoassay. Comparison with the radioallergosorbent test. J Investig Allergol Clin Immunol (1991 Aug) 1(4):247-52.

A reverse enzyme immunoassay (REINA) is described, in which polystyrene microtiter wells are sensitized with murine monoclonal anti-human IgE, and then sequentially allowed to react with patient's serum, peroxidase-labeled allergens and substrate. The results obtained with the sera of patients allergic to Lolium perenne grass pollen, the tree pollens of Betula alba and Olea europea, the epithelia of cat and dog, the mite Dermatophagoides pteronyssinus, or to the foodstuffs cow's milk, chicken eggwhite or peanut were compared with the analytical data from the ratio allergosorbent test (RAST). The results show a good correlation between these two laboratory techniques.

37. Mitsuda H Kawai F Kuga M Yamamoto A: Mechanisms of carbon dioxide gas adsorption by grains and its application to skin-packaging. J Nutr Sci Vitaminol (Tokyo) (1973) 19(1):71-83.
[No Abstract Available]

38. Eckert F Burg G Braun-Falco O Schmid U Gloor F: Immunostaining in atypical fibroxanthoma of the skin. Pathol Res Pract (1988 Dec) 184(1):27-34.

We have studied 12 cases of cutaneous atypical fibroxanthoma using immunohistochemistry to demonstrate lysozyme, alpha-1-antitrypsin, S-100-protein, receptors for peanut agglutinin, and intermediate filaments. Results were compared with immunostaining in 24 cases of other so-called fibrohistiocytic tumours. In addition 2 cases of atypical fibroxanthoma and 6 cases of fibrohistiocytic tumours were stained by monoclonal antibodies specific for the monocyte cell lineage (Ki-M1, Ki-M2, Ki-M6, Ki-M7, Ki-M8, OKM-1 and Leu-M1) and double-stained by monocyte-markers and Ki-67. The immunophenotype of atypical fibroxanthoma was rather similar to the marker profile found in malignant fibrous histiocytoma. All atypical fibroxanthomas were positive for vimentin and negative for epithelial markers. Monocyte lineage-specific determinants could be demonstrated in varying amounts in cells suggestive of being reactive. In contrast proliferating--Ki-67 positive--cells did not express monocyte/macrophage related antigens in atypical fibroxanthoma and malignant fibrous histiocytoma both. As to the histogenesis of these tumours our findings speak in favour of a derivation from primitive mesenchymal cells rather than from histiocytes.

39. Fitzgerald JE Kurtz SM Schardein JL Kaump DH: Cutaneous and parenteral studies with vehicles containing isopropyl myristate and peanut oil. Toxicol Appl Pharmacol (1968 Nov)

13(3):448-53. [No Abstract Available]

40. Amla I Kamala CS Gopalakrishna GS Jayaraj AP Sreenivasamurthy V Parpia HA: Cirrhosis in children from peanut meal contaminated by aflatoxin. Am J Clin Nutr (1971 Jun) 24(6):609-14. [No Abstract Available]

41. Speer F: Food allergy: the 10 common offenders. Am Fam Physician (1976 Feb) 13(2):106-12.

The 10 chief offenders among food allergens are cow's milk, chocolate and cola (the kola nut family), corn, eggs, the pea family (chiefly peanut, which is not a nut), citrus fruits, tomato, wheat and other small grains, cinnamon and artificial food colors. Food allergy results in a remarkable variety of clinical syndromes. Diagnois rests on an elimination and challenge process. Treatment is avoidance. Desensitization does not work.

42. Fries JH: Peanuts: allergic and other untoward reactions. Ann Allergy (1982 Apr) 48(4):220-6.

Serious sequalae to the ingestion of several foods such as egg, fish and milk--and the lack of profound reactions to chocolate--have been well documented. However, no comparable study exists in regard to peanut, which has long been known to be a patent antigen. This article explores the role of peanut with respect to its hazards as an antigen and as a foreign body in the upper respiratory tract, and documents a number of fatal and near-fatal reactions.

43. Gerrard JW Perelmutter L: IgE-mediated allergy to peanut, cow's milk, and egg in children with special reference to maternal diet. Ann Allergy (1986 Apr) 56(4):351-4.

Nineteen children with IgE-mediated allergy associated with strongly positive prick skin tests and RASTs to peanut or cow's milk and/or egg were studied. Seventeen of the children had been breast fed, ten had been exclusively breast fed for a minimum of 5 months. Reactions to these foods occurred on first exposure to the food in all but one instance, suggesting that in 18 instances sensitization had occurred antenatally or via the breast. A retrospective inquiry indicated that most of the mothers had had a generous intake of the food(s) to which their children were sensitized, but mothers of sensitized children did not consume more of these foods than the mothers of non-sensitized children; moreover, avoidance of the foods (peanut in two instances and egg in one) did not ensure freedom from sensitization to peanut and/or egg. Breast feeding by itself cannot be guaranteed to protect against the development of food allergy.

44. van Asperen PP Kemp AS Mellis CM: Immediate food hypersensitivity reactions on the first known exposure to the food. Arch Dis Child (1983 Apr) 58(4):253-6.

We report 8 infants with immediate hypersensitivity reactions to foods (milk, egg, or peanut), occurring at the first-known exposure. Each developed symptoms within the first hour, but these generally settled within 2 hours. Sensitisation to the food concerned was demonstrated by positive immediate allergen skin prick tests in every case. Symptoms experienced included irritability, erythematous rash, urticaria, angio-oedema, vomiting, rhinorrhoea, and cough. Five

infants were being followed prospectively and 4 were clinically tolerant of the food by age 16 months. The most likely route of sensitisation was via breast milk. None of the infants experienced similar reactions while being breast fed, suggesting that the reaction was dose dependent. As 5 out of a group of 80 infants being followed prospectively developed an immediate reaction at their first known exposure to a food, this appeared to be a not uncommon presentation of food hypersensitivity in infancy.
45. Ackroyd JF: Allergy to peanuts [letter; comment] BMJ (1990 Jul 14) 301(6743):120. [No Abstract Available].

46. Donovan KL Peters J: Vegetableburger allergy: all was nut as it appeared [see comments] BMJ (1990 May 26) 300(6736):1378. [No Abstract Available].

47. Assem ES Gelder CM Spiro SG Baderman H Armstrong RF: Anaphylaxis induced by peanuts [see comments]. BMJ (1990 May 26) 300(6736):1377-8. [No Abstract Available]

48. Smith T: Allergy to peanuts [editorial] [see comments] BMJ (1990 May 26) 300(6736):1354. [No Abstract Available].

49. Skrabanek P: Letter: Acute rhabodomyolysis and renal failure after injection of peanut oil. Br Med J (1975 Dec 27) 4(5999):757-8. [No Abstract Available].

50. Cant AJ Gibson P Dancy M: Food hypersensitivity made life threatening by ingestion of aspirin. Br Med J (Clin Res Ed) (1984 Mar 10) 288(6419):755-6. [No Abstract Available]

51. Evans S Skea D Dolovich J: Fatal reaction to peanut antigen in almond icing. Can Med Assoc J (1988 Aug 1) 139(3):231-2. [No Abstract Available].

52. Higgins JA Lamb JR Lake RA O'Hehir RE: Polyclonal and clonal analysis of human CD4+ T-lymphocyte responses to nut extracts. Immunology (1995 Jan) 84(1):91-7.

The induction of IgE antibodies to aeroallergens depends upon antigen-specific CD4+ helper T cells of an 'interleukin-4 (IL-4)-dominant' phenotype. Nuts also drive IgE-mediated hypersensitivity and are the most dangerous of the orally encountered allergens. We have studied the polyclonal T-cell responses of atopic and non-atopic individuals to extracts of peanut, brazilnut and hazelnut. Strong proliferative responses were observed in all patients but specific IgE was only present in the nut-allergic patients suggesting a similar pathogenic mechanism to aeroallergen-mediated hypersensitivity. To investigate this hypothesis a panel of peanut-reactive T-cell clones was raised from a peanut- and brazilnut-allergic individual without hazelnut allergy. The antigen specificity, major histocompatibility complex (MHC) class II restriction and cytokine profiles of the T-cell clones were determined. With the exception of one T-cell clone, which proliferated in response to both peanut and hazelnut extract, the peanut T-cell clones were not cross-reactive with hazelnut or brazilnut. The T-cell clones recognized antigen in association with HLA-DR and HLA-DP but not HLA-DQ class II molecules. The peanut- specific clones produced high levels of IL-4 and low levels of interferon-gamma (IFN-gamma), exhibiting the 'TH2-like' profile which dominates the aeroallergen response. In contrast, the T-cell clone that was cross-reactive on both peanut and hazelnut allergen had a Th0-like phenotype, consistent

with the lack of specific serum IgE to hazelnut. These results support the importance of functionally distinct T-cell populations that recognize oral allergens. The relative production of IL-4 and IFN-gamma of the cloned T cells in the peanut-allergic patients plays a role in determining whether or not IgE antibody responses are induced with the associated potential to develop anaphylactic reactions.

53. Sampson HA: Peanut anaphylaxis. J Allergy Clin Immunol (1990 Jul) 86(1):1-3. [No Abstract Available].

54. Bock SA: The natural history of food sensitivity. J Allergy Clin Immunol (1982 Feb) 69(2):173-7.

The natural history of food sensitivity has long been the subject of anecdotes about children "outgrowing" their problem, but prospective systematic studies are not easily found that document these opinions. Children who had had adverse reactions to foods during double-blind food challenges 1 to 7 yr prior to this study were evaluated. In children over 3 yr of age, 19% of the previously positive food challenges were negative at the time of the follow-up; in children 3 yr of age or younger, 44% of the food challenges that had been positive were negative. The data collected thus far suggest that children who have their food sensitivity diagnosed at older ages tend not to outgrow the problem. Skin testing was performed over a period of years on some of the subjects, and skin sensitization was found to be markedly persistent, even in subjects who could consume the sensitizing food without symptoms.

55. Bock SA Lee WY Remigio LK May CD: Studies of hypersensitivity reactions to foods in infants and children. J Allergy Clin Immunol (1978 Dec) 62(6):327-34.

In order to extend previous investigations of adverse reactions to foods performed at this institution ingestion of one or more of the 14 foods under study. Sixteen of 43 subjects, 3 yr of age or older, had 22 adverse reactions during 94 food challenges with one or more of the 14 foods. All reactions confirmed were to peanut or other nuts, milk, egg, and soy. Skin testing with 1:20 weight/volume concentrations of food extracts applied by the puncture technique produced a net wheal reaction 3 mm or greater in all subjects 3 yr of age or older in whom double-blind food challenges confirmed the history of adverse reaction. Thirteen of 25 children less than 3 yr of age manifested adverse reactions during 49 food challenges. Skin testing by puncture technique produced a net wheal 3 mm or greater in 9 children less than 3 yr of age in whom food challenge elicited a clinical response within 2 hr. One of 4 subjects less than 3 yr of age in whom the adverse reaction occurred more than 4 hr after food challenge exhibited a wheal to puncture skin test of 3 mm or greater. These studies suggest that at present double-blind food challenge is an indispensible tool for the unequivocal evaluation of adverse reactions to foods.

56. May CD: Objective clinical and laboratory studies of immediate hypersensitivity reactions to foods in asthmatic children. J Allergy Clin Immunol (1976 Oct) 58(4):500-15.

Clinical and laboratory observations were made with 38 children afflicted with chronic severe asthma (reversible obstructive airway disease) in which hypersensitivity to food was incriminated in the histories. Symptoms were evoked in double-blind food challenges in only 11/38 children

and 14/70 challenges, and were characteristic of immediate-type hypersensitivity and were chiefly gastrointestinal, even though asthma was the common presenting complaint. There were no delayed reactions. Peanut was responsible for 8 reactions, egg for 5, and cow's milk for 1. The feature that most successfully identified those having positive reactions in challenges was a significant wheal reaction in a skin test by puncture technique using a verified extract of 1:20 W/V concentration. No subject with clinically significant, symptomatic hypersensitivity to food had a negative puncture test, and puncture tests were positive in only 10/56 instances of negative reactions in food challenges. Laboratory observations included release of histamine and enzymes from leukocytes and the levels of neutrophil enzymes in serum before and after food provocation tests. While these determinations were of interest with respect to the immunochemical basis of reactions to foods, they did not prove useful for practical clinical diagnosis. The outstanding laboratory findings was the occurrence of "spontaneous" release of 25% to 100% of the histamine from leukocytes in all cases proved clinically hypersensitive by food challenges, which suggests that this may be an indicator of immediate-type hypersensitivity to food. From the findings in the study, a general approach to food hypersensitivity was developed in which the immunologic components coupled with quantitative concentration-response relationships serve to render comprehensible the distinction between asymptomatic (immunologic) hypersensitivity and symptomatic (clinical) hypersensitivity.

57. Chua YY Bremner K Lakdawalla N Llobet JL Kokubu HL Orange RP Collins-Williams C: In vivo and in vitro correlates of food allergy. J Allergy Clin Immunol (1976 Aug) 58(2):299-307.

Sera of 86 patients clinically sensitive to foods were tested by passive sensitization of human and/or monkey lung (127 tests) and the radioallergosorbent test (RAST) (72 tests), using whole-food antigens; the results were compared with skin (prick) testing. Results of the prick test correlated with history in 76% of cases; lung sensitization correlated with history in 37% and with prick test in 57%; and RAST correlated with history in 54% and prick test in 72%. It is concluded that a very large percentage of adverse reactions to foods are IgE-mediated. The prick test is of use in diagnosis, particularly when combined with RAST; the lung sensitization test is technically impractical and not a reliable indicator. The best diagnostic method is careful history with food challenge and withdrawal and rechallenge; the latter is safe except in patients with a history of violent reaction.

58. Gillespie DN Nakajima S Gleich GJ: Detection of allergy to nuts by the radioallergosorbent test. J Allergy Clin Immunol (1976 Apr) 57(4):302-9.

The diagnosis of food allergy is often difficult to make by
conventional means. Histories are frequently ambiguous, and skin testing is of dubious reliability because of the number of false-positive and false-negative reactions. We have evaluated the radioallergosorbent test (RAST) for the in vitro measurement of the specific IgE antibodies to nuts, including Brazil nut, almond, walnut, pecan, cashew, and the legume, peanut. Serums were obtained from 18 patients with a history of nut allergy and IgE level and specific IgE antibodies were measured. Thirteen of the 18 patients had significantly elevated IgE antibody (greater than twice control) to one or more of the allergens. Prausnitz-Kustner tests on selected serums in general corroborated the results of the in vitro studies. Five patients had RAST elevations to 2 or

more nuts. As a group RAST- positive patients had elevated mean serum IgE levels and more severe clinical symptoms (p less than 0.01). The specificity and cross- reactivity of IgE antibodies to different nut antigens was investigated by RAST inhibition with serums from 5 patients having high levels of IgE antibody. In 4 patients no cross-reactivity between Brazil nut and peanut was found. In contrast, several nut extracts inhibited the reaction of pecan allergen with IgE antibodies. These results indicate that specific IgE antibodies can be measured by RAST in patients with nut allergy and the cross- reactivity of nut antigens can be investigated. RAST would appear to be most useful in confirming the diagnosis of nut hypersensitivity in children or in highly allergic patients in whom skin testing poses a risk of anaphylaxis.

59. Bock SA Atkins FM: The natural history of peanut allergy.
J Allergy Clin Immunol (1989 May) 83(5):900-4

Between 1973 and 1985, 114 children, aged 2 to 14 years, underwent double-blind, placebo-controlled, food challenge (DBPCFC) to peanut. Thirty-two of 46 children with symptoms produced by DBPCFC to peanut were included in this longitudinal evaluation. Contact was made with the 32 subjects 2 to 14 years after their positive DBPCFC to peanut. All 32 subjects had exhibited a positive puncture skin test to peanut at the time of the original evaluation. Sixteen subjects had experienced symptoms caused by accidental peanut ingestion in the year before contact. Eight subjects had reacted to accidental ingestion in more than 1 year but less than 5 years before contact. Eight subjects had completely avoided peanut since the original evaluation and positive DBPCFC. No subjects could be demonstrated to have "outgrown" their peanut reactivity. All subjects tested continued to have skin reactivity to a puncture skin test with peanut extract. It appears uncommon for peanut-sensitive patients to lose their clinical reactivity, even after many years have elapsed. In addition, data were collected concerning reactions to other legumes and other (nonlegume) nuts. Only two patients with DBPCFC to peanut reacted on DBPCFC to soy or pea (one each). None of the subjects with a positive DBPCFC to peanut reacted to nonlegume nuts.

60. Zimmerman B Forsyth S Gold M: Highly atopic children: formation of IgE antibody to food protein, especially peanut. J Allergy Clin Immunol (1989 Apr) 83(4):764-70.

Highly atopic infants often form IgE antibodies toward multiple food protein in the first 2 years of life. They begin producing IgE antibody to inhalant allergens between the first and second year of life. We hypothesized that highly atopic children would be at significant risk of sensitization to peanut. We defined high atopy as serum IgE greater than or equal to 10 times 1 SD from normal plus multiple positive RASTs. In this study we have characterized the immunologic status of 141 patients by measuring total serum IgE and specific IgE to several allergens, including peanut. These data demonstrated that, independent of clinical history, a positive RAST to peanut was more common in the highly atopic category compared to the low atopy category. Significantly more patients who were highly atopic and had a positive peanut RAST had a positive RAST for egg or milk compared to low atopic patients. More significantly, 33 of the patients had never knowingly received peanut, yet 21 (63.6%) had a positive RAST for peanut, whereas seven (21.2%) had a peanut antibody in the highest RAST category. All these seven patients were considered highly atopic according to the definition above, and three were younger than 2 years of age. These results suggest that highly atopic infants are at special risk for

sensitization to peanut, even when they have never received peanut, and that characterization of immunologic sensitization to milk, egg, and peanut will identify the highly atopic infant.(ABSTRACT TRUNCATED AT 250 WORDS)

61. Hefle SL Lemanske RF Jr Bush RK: Adverse reaction to lupine-fortified pasta. J Allergy Clin Immunol (1994 Aug) 94(2 Pt 1):167-72.

A 5-year-old girl with peanut sensitivity experienced urticaria and angioedema after ingesting a spaghetti-like pasta fortified with sweet lupine seed flour. The pasta was extracted and used in immunologic studies in patients with peanut sensitivity to determine whether such individuals are at similar risk. Results of skin prick tests with the lupine pasta extract were positive in five of seven subjects; these patients also reported a history of adverse reactions to green peas. In direct RAST studies IgE binding from pooled sera from patients with peanut sensitivity to the lupine pasta extract was 7 times that of a nonallergic control serum, and individual serum samples demonstrated binding from 1 to 6 times that of the negative control. Direct RAST studies of lupine seed flour with serum samples from patients with peanut allergy demonstrated IgE binding 1 to 11 times that of the negative control. Immunoblotting studies of electrophoretically separated pasta extract and lupine seed flour proteins showed IgE-binding protein bands at approximately 21 kd and in the range of 35 to 55 kd molecular weight. We conclude that some peanut-sensitive patients may be at risk for adverse reactions to lupine.

62. Sampson HA Albergo R: Comparison of results of skin tests, RAST, and double-blind, placebo-controlled food challenges in children with atopic dermatitis.
J Allergy Clin Immunol (1984 Jul) 74(1):26-33

Forty children with atopic dermatitis were evaluated for clinical evidence of hypersensitivity to foods by double-blind, placebo- controlled food challenges. Twenty-four children (60%) experienced 33 positive challenges, manifested by cutaneous symptoms in 31 (94%), gastrointestinal symptoms in 14 (42%), nasal symptoms in nine (27%), and respiratory in six (18%). Results of prick skin tests (STs) and RASTs to eight food antigens frequently eliciting hypersensitivity reactions were compared with those from food challenges to determine the diagnostic accuracy in children with atopic dermatitis. Defining a positive ST as a wheal 3 mm larger than the negative control wheal and a positive RAST as a Phadebas RAST score of 3 or 4, the sensitivity, specificity, and predictive accuracies of these tests were found to be comparable except in the case of wheat antigen where the ST was clearly superior to the RAST. Accepting a RAST score of 2 or more as a positive slightly improved sensitivity in some cases but dramatically decreased specificity. Combining results of STs and RASTs did not improve significantly the diagnostic accuracy over results of the tests used individually. These studies demonstrate no advantage of RAST alone or in combination with prick skin testing over prick skin testing alone in the evaluation of food hypersensitivity in children with atopic dermatitis. Furthermore, skin testing should be considered a good test for excluding immediate food hypersensitivity but only a suggestive positive indicator of hypersensitivity due to the high rate of clinically insignificant positive STs.

63. Burks AW Williams LW Connaughton C Cockrell G O'Brien TJ Helm RM: Identification and characterization of a second major peanut allergen, Ara h II, with use of the sera of patients

with atopic dermatitis and positive peanut challenge. J Allergy Clin Immunol (1992 Dec) 90(6 Pt 1):962-9

Peanuts are frequently a cause of food hypersensitivity reactions in children. Serum from nine patients with atopic dermatitis and a positive double-blind, placebo-controlled, food challenge to peanut were used in the process of identification and purification of the peanut allergens. Identification of a second major peanut allergen was accomplished with use of various biochemical and molecular techniques. Anion exchange chromatography of the crude peanut extract produced several fractions that bound IgE from the serum of the patient pool with positive challenges. By measuring antipeanut specific IgE and by IgE-specific immunoblotting we have identified an allergic component that has two closely migrating bands with a mean molecular weight of 17 kd. Two-dimensional gel electrophoresis of this fraction revealed it to have a mean isoelectric point of 5.2. According to allergen nomenclature of the IUIS Subcommittee for Allergen Nomenclature this allergen is designated, Ara h II (Arachis hypogaea).

64. Graham S Dayal H Swanson M Mittelman A Wilkinson G: Diet in the epidemiology of cancer of the colon and rectum. J Natl Cancer Inst (1978 Sep) 61(3):709-14.

We examined the diets as reported in interviews of 256 white male patients with cancer of the colon and of 330 white male patients with cancer of the rectum. Controls were 783 patients with nonneoplastic, nondigestive system diseases distributed by age similarly to the colon cancer patients and 628 patients with nonneoplastic, nondigestive diseases distributed by age like those with cancer of the rectum. We found no increase in risk for cancer of the colon or rectum regardless of the amounts of beef or other meats ingested. However, we found an increase in risk of colon cancer with decreases in the frequency with which vegetables were eaten. A study of 214 females with cancer of the colon and 182 females with cancer of the rectum yielded similar results. The decrease in risk we found associated with frequent ingestion of vegetables, and especially cabbage, Brussels sprouts, and broccoli, is consistent with the decreased numbers of tumors observed in animals challenged with carcinogens and fed compounds found in these same vegetables.

65. Sampson HA McCaskill CC: Food hypersensitivity and atopic dermatitis: evaluation of 113 patients. J Pediatr (1985 Nov) 107(5):669-75

One hundred thirteen patients with severe atopic dermatitis were evaluated for food hypersensitivity with double-blind placebo-controlled oral food challenges. Sixty-three (56%) children experienced 101 positive food challenges; skin symptoms developed in 85 (84%) challenges, gastrointestinal symptoms in 53 (52%), and respiratory symptoms in 32 (32%). Egg, peanut, and milk accounted for 72% of the hypersensitivity reactions induced. History and laboratory data were of marginal value in predicting which patients were likely to have food allergy. When patients were given appropriate restrictive diets based on oral food challenge results, approximately 40% of the 40 patients re-evaluated lost their hypersensitivity after 1 or 2 years, and most showed significant improvement in their clinical course compared with patients in whom no food allergy was documented. These studies demonstrate that food hypersensitivity plays a pathogenic role in some children with atopic dermatitis and that appropriate diagnosis and exclusionary diets can lead to significant improvement in their skin symptoms.

66. Rosenblum GR Cantrell RW: Response to Putnam: caution ... peanuts may be harmful to your clients' health! [letter] J Speech Hear Disord (1982 May) 47(2):218-9. [No Abstract Available].

67. Putnam AH: Caution...peanuts may be harmful to your clients' health! [letter]. J Speech Hear Disord (1981 May) 46(2):220-1. [No Abstract Available]

68. Scheier NR: Peanutaholic has hyperpeanutemia [letter]
JAMA (1989 Jul 28) 262(4):500-1. [No Abstract Available]

69. Schultz D: Peanuts in infants: inhalants as well as allergens [letter]. JAMA (1989 Apr 21) 261(15):2202. [No Abstract Available]

70. Yunginger JW Sweeney KG Sturner WQ Giannandrea LA Teigland JD Bray M Benson PA York JA Biedrzycki L Squillace DL et al.: Fatal food-induced anaphylaxis.
JAMA (1988 Sep 9) 260(10):1450-2.

Fatal food-induced anaphylaxis is rarely reported. In 16 months, we identified seven such cases involving five males and two females, aged 11 to 43 years. All victims were atopic with multiple prior anaphylactic episodes after ingestion of the incriminated food (peanut, four; pecan, one; crab, one; fish, one). In six cases the allergenic food was ingested away from home. Factors contributing to the severity of individual reactions included denial of symptoms, concomitant intake of alcohol, reliance on oral antihistamines alone to treat symptoms, and adrenal suppression by chronic glucocorticoid therapy for coexisting asthma. In no case was epinephrine administered immediately after onset of symptoms. Premortem or postmortem serum samples were available from six victims; in each case elevated levels of IgE antibodies to the incriminated food were demonstrated. Food-sensitive individuals must self-administer epinephrine promptly at the first sign of systemic reaction. Emergency care providers should be aware of cricothyrotomy as a life- saving procedure.
71. Mikkelsen EJ: Another peanut-butter "cafe coronary" [letter]. N Engl J Med (1977 May 12) 296(19):1126 [No Abstract Available]

72. Jukes TH: Corn and peanuts. Nature (1978 Feb 9) 271(5645):499 [No Abstract Available]

73. Whitley BD Holmes AR Shepherd MG Ferguson MM: Peanut sensitivity as a cause of burning mouth. Oral Surg Oral Med Oral Pathol (1991 Dec) 72(6):671-4.

A patient with a history of a burning tongue together with discomfort of the labial and buccal mucosae was given an elimination diet and skin patch tests to determine the allergen in her diet. The patient was identified as being intolerant of an aqueous peanut extract. Three allergens in peanut butter were identified, the one with greatest reactivity being a heat-stable, water-soluble, nonglycosylated protein with a molecular weight in excess of 10 kD. Modification of her diet has resulted in resolution of the oral problem.

74. Stafford EM: Flying, peanuts, and crying babies [letter] Pediatrics (1985 Dec) 76(6):1018.

[No Abstract Available]

75. Hofman T: [Allergy to nuts and allergy to birch]. Alergia na orzechy a alergia na pylki brzozy. Pneumonol Alergol Pol (1994) 62(11-12):589-93 (Published in Polish)

Among 527 children and young in age from 2 months to 19 years of life it has been separated the group 70 with increased specific IgE levels to hazelnuts or/and to peanuts. In them it has been determined specific IgE to pollen birch and it has been make correlation the results with the symptoms. Specific IgE has been determined immunoenzymatic Visagnost Tosse Diagnostika method. The control group stand 34 children in the same age with the infections symptoms. In the infants group--13 (59.1%) had sIgE to birch, in children 2-3 age group--15 (75%), in 406 age--8 (72.7%), in the school age--7 (87.5%) and in young > 16 age--8 (88.9%). In the control group found absence sIgE to each of examination allergens. In 5 infants in the time of the pollen birch (April 1993) it has been manifestation dyspnoea. In group 2-3 age--in 10 (45.5%) found pollinosis symptoms, 12 (60%) had asthmatic dyspnoea, 7 (35%) atopic dermatitis, 2 (10%) allergic rhinoconjunctivitis and 5 (25%) abdominal pain with concomitant dyspnoea. It has been characteristic, that never found one of clinical allergic symptoms. In group 5-6 age and 7-15 age it has been dominated atopic dermatitis (63.3% and 87.5%), pollen asthma (45.4% and 62.5%) and pollinosis (45.4% and 25%). While in young 16 age--8 (88.8%) had pollinosis, 5 (55.5%) had atopic dermatitis and pollinosis. The conclusion: 1. In children which had specific IgE to nuts increased together with age specific IgE to birch. 2. The gravely pollinosis symptoms appear in small children in 1-2 age of life, already.(ABSTRACT TRUNCATED AT 250 WORDS).

76. Miller SF Cox JA Majeski JA: Acute intestinal obstruction caused by a peanut bezoar in a child. South Med J (1981 Dec) 74(12):1554. [No Abstract Available]

77. Oranje AP Aarsen RS Mulder PG van Toorenenbergen AW Liefaard G Dieges PH: Food immediate-contact hypersensitivity (FICH) and elimination diet in young children with atopic dermatitis. Preliminary results in 107 children. Acta Derm Venereol Suppl (Stockh) (1992) 176:41-4.

In atopic dermatitis [AD], not only food consumption, but direct skin-contact too can provoke hypersensitivity reactions. We imitated food immediate-contact hypersensitivity [FICH] to cow's milk, egg, peanut or soy by a skin provocation test. This skin application food test [SAFT] was applied in 91 patients aged up to 5 years and suffering from AD, and in 16 healthy controls (all SAFT-negative). In the SAFT- positive patients (n = 61), FICH to egg was observed in 72%, to cow's milk in 47%, to peanut in 34% and soy in only 1 patient. SAFT and RAST scores correlated weakly. Nevertheless, many discrepancies between SAFT and RAST results were found. In 20 of the 61 (33%) patients with FICH, a flare-up in AD was noted at SAFT testing. Upon introducing dietary restrictions, AD improved impressively in 9 of 23 patients who could be followed up. FICH is an important symptom in children with AD and food allergy.

78. Natarajan KR: Peanut protein ingredients: preparation, properties, and food uses. Adv Food Res (1980) 26:215-73.
[No Abstract Available]

79. Bardare M Magnolfi C Zani G: Soy sensitivity: personal observation on 71 children with food intolerance. Allerg Immunol (Paris) (1988 Feb) 20(2):63-6

The controversies on the use of soy milk as a substitute in cow's milk intolerance prompted us to study: the incidence of soy sensitivity in a pediatric population (71 children, mean age 5.9 years, 45 boys and 26 girls) with food intolerance: the influence of a prior soy milk feeding on soy sensitivity: the relationship between soy, cow's milk and seed allergy. The patients were subdivided in two groups, one of atopic patients (50 subjects, 28 of which previously fed soy) and the other of non atopic patients (21 subjects, 12 of which previously fed soy). In the atopic group prick and RAST gave positive results to soy in 46% of case, with no difference between subjects fed soy and not. There was a relationship between any and peanut RAST in 82%; between soy and pea in 70%; between soy and cow's milk in 27% of cases. Soy milk challenge was positive in 10 out of 58 children (6 atopic and 4 non atopic); 4 our of 21 atopic patients with a cow's milk intolerance had a positive soy milk challenge: 3 of 10 non atopic patients with cow's milk intolerance were reactive to soy too. 77% of atopic and 90% of non atopic children were responsive both to seeds and soy. It can be concluded that soy sensitivity is rather rare in patients with food intolerance (17.2% of cases) and is not correlated with cow's milk intolerance while is significantly correlated with seeds allergy; there is no difference between atopic and non atopic subjects and between patients previously fed soy and never fed soy.

80. Moneret-Vautrin DA Fremont S Kanny G Dejardin G Hatahet R Nicolas JP: The use of two multitests fx5 and fx10 in the diagnosis of food allergy in children: regarding 42 cases. Allerg Immunol (Paris) (1995 Jan) 27(1):2-6

The multitests Cap RAST fx5 and fx10 (Pharmacia, Cap System) are used for a rapid biological diagnosis of food allergy. These tests were assessed in 29 children who presented 42 food allergies (FA) documented by prick tests, specific IgE and labial or oral provocation tests (single blind placebo controlled food challenges). When the multitests were positive, the search for specific IgE to the corresponding allergens was performed (Cap RAST, Pharmacia). The theoretical coverage of FA could be estimated according to the frequency of food allergens involved in the children. It reaches 85% for Cap RAST fx5 and 29% for Cap RAST fx10. The sensitivity of Cap RAST fx5 is 89% and 50% for Cap RAST fx10. Even in the case when the child had a single food allergy, the detail of specific IgE showed multiple positivities to several allergens included in the multitest. Consequently, the positive predictive value of Cap RAST was only 32%. Prick tests to the same allergens were more rarely positive, gaining thus a better positive predictive value. The authors propose the use of Cap RAST fx5, eventually completed by a Cap RAST to beef for the first approach of food allergy in children. They stress the point that prick tests have to be carried on subsequently, in order to select properly allergens responsible for food allergy.

81. Sabbah A Lauret MG: [Experimental study of peanut sensitization in guinea pigs] Etude experimentale de la sensibilisation a l'arachide chez les cobayes. Allerg Immunol (Paris) (1994 Dec) 26(10):380-2 (Published in French)

An experimental study of sensitization to peanut has shown that this can be induced in guinea pigs by crushed peanuts ingested daily for three weeks although peanut oil, which is found in

some preparations of vitamin D, did not sensitize the guinea pigs, when compared with a control group and a group of guinea pigs that had received only a "flash" dose of 1 ml peanut oil by the oral route.

82. Yunginger JW: Classical food allergens. Allergy Proc (1990 Jan-Feb) 11(1):7-9. [No Abstract Available]

83. Saavedra-Delgado AM: The many faces of the peanut. Allergy Proc (1989 Jul-Aug) 10(4):291-4. [No Abstract Available]

84. Settipane GA: Anaphylactic deaths in asthmatic patients.
Allergy Proc (1989 Jul-Aug) 10(4):271-4

We reviewed seven documented deaths to peanuts and two near deaths. We excluded hearsay undocumented deaths to peanuts. Peanut allergy is one of the most common food allergies and probably the most common cause of death by food anaphylaxis in the United States. About one-third of peanut-sensitive patients have severe reactions to peanuts. Asthmatics with peanut sensitivity appear more likely to develop fatal reactions probably because of the exquisite sensitivity that asthamatics have to chemical mediators of anaphylaxis. Severe reactions occur within a few minutes of ingestion and these patients must carry preloaded epinephrine syringes, antihistamines, and medic- alert bracelets. Treatment should include repeated doses of epinephrine, antihistamines and corticosteroids as well as availability of oxygen, mechanical methods to open airways, vasopressors, and intravenous fluids. Hidden sources of peanuts such as chili, egg rolls, cookies, candy, and pastry should be recognized and identified. Scratch/prick test to peanuts are highly diagnostic. Peanut is one of the most sensitive food allergens known requiring only a few milligrams to cause a reaction. In some individuals, even contact of peanut with unbroken skin can cause an immediate local reaction. Unfortunately, peanut reaction is not outgrown and remains a life-long threat.

85. Burks AW Williams LW Mallory SB Shirrell MA Williams C
Peanut protein as a major cause of adverse food reactions in patients with atopic dermatitis.
Allergy Proc (1989 Jul-Aug) 10(4):265-9.

Peanuts, along with milk and eggs, have been documented to account for approximately 80% of adverse reactions to foods in patients with atopic dermatitis. Over the past 3 years, we have evaluated 71 patients with atopic dermatitis, ranging from mild to severe in nature. These patients were initially evaluated by allergy prick skin testing and when appropriate had double-blind placebo-controlled food challenges done. Thirty-nine (55%) patients had a positive prick skin test to one of the foods tested. There were 80 food challenges performed with peanut, accounting for 12 (32%) of the 38 positive challenges in 23 (31%) patients. As in earlier studies, patients developed skin (97%), respiratory (55%), and gastrointestinal (32%) symptoms during the challenge. Of the five patients with histories of prior anaphylactic reactions four (80%) were to peanut. These studies indicate that children with all degrees of atopic dermatitis may benefit from evaluation for food hypersensitivity. They also show that peanut is a major food protein responsible for these reactions.

86. Bush RK Taylor SL Nordlee JA: Peanut sensitivity. Allergy Proc (1989 Jul-Aug) 10(4):261-4.

Peanuts are one of the most allergenic foods. The allergic reactions may vary in severity from mild urticaria to severe anaphylactic episodes and death. The prevalence of peanut sensitivity is unknown, but it may affect as many as 10% of allergic individuals. The chemistry of peanut proteins has been extensively studied. Two major protein fractions have been prepared from saline extracts of peanut flour, arachin and conarachin. A major peanut allergen termed "Peanut-1" has been isolated. However, a number of protein constituents, including the arachin and conarachin fractions, have been shown to be allergenic. The ability to diagnose peanut sensitivity accurately has been hampered by the lack of standardized peanut extracts. However, efforts are under way to prepare such standardized reagents. Treatment consists of avoiding peanut protein products and using self- administered epinephrine. A number of peanut protein-containing products are allergenic, although peanut oil is not. The peanut- allergic consumer should be instructed to carefully read labels of foods. This can at times, however, be misleading, because certain foods may be inadvertently contaminated by peanut proteins.

87. Kalliel JN Klein DE Settipane GA: Anaphylaxis to peanuts: clinical correlation to skin tests. Allergy Proc 1989 Jul-Aug) 10(4):259-60.

To determine the prevalence of peanut sensitivity in a group of patients referred for routine allergy evaluation, we skin tested 365 consecutive patients with a battery of extracts that included pollens, danders, mold, dust and peanuts. These patients were seen either in private practice or in the Allergy Clinic (Rhode Island Hospital). Of these 365 patients, 248 were found to be atopic. Eight patients had a positive scratch test to peanut extract, and four of these had a positive history of peanut sensitivity. One asymptomatic patient to peanut by history reacted to open challenge with 2 oz of peanut on two occasions. We, therefore, found that 3.2% (8 of 248) of our atopic patients had a positive skin test to peanuts and of these at least 62.5% (5 of 8) had clinical sensitivity to peanuts. No nonatopic patient reacted to peanut skin testing.

88. Yunginger JW Squillace DL Jones RT Helm RM: Fatal anaphylactic reactions induced by peanuts. Allergy Proc (1989 Jul-Aug) 10(4):249-53.

Peanuts are a common cause of food allergy, but they have infrequently been documented as causing fatal anaphylactic reactions. We review five previously reported fatalities caused by peanut allergy, along with data on IgE binding proteins in extracts of a commercial product containing peanuts that have been deflavored and reflavored and colored to resemble walnuts, pecans, or almonds. Ingestion of this product may pose hazards to peanut-sensitive persons. Finally, we identify several factors that may contribute to the severity and possible lethality of food-induced anaphylaxis.

89. Ferrando R Parodi AL Henry N N'Diaye AL Fourlon CI Delort-Laval P: [Effect of ammonia treatment of peanut meal cake contaminated with A. flavus on nutritional value for the duckling]. Influence d'un traitement par l'ammoniaque du tourteau d'arachide contamine par A. flavus sur son efficacite alimentaire chez le caneton. Ann Nutr Aliment (1975) 29(1):61-6. (Published in French).

Duckling are feeding peanut and meal detoxified or not by ammonia at the level of 25 p. 100. Control group are eating soybean meal at the same level. The raw protein content of diet is the same in each group. Experiment is carried out during four weeks, then duckling are killed. There is no significative difference between peanut meal detoxified and soybean meal relating to growth and food efficiency. Thus body weight is 775 and 764 g on duckling eating soybean meal; 764 and 827 g on duckling with peanut meal detoxified but only 472 and 452 g on birds with diet containing peanut meal not detoxified by NH3. Liver's weight is increased on these subjects. The ratio of liver weight to body weight X 100 is 5,49-4,79 and, respectively, 2,70-3,60 and 3,86-3,56 on duckling with detoxified peanut meal or controls eating soybean meal. Characteristic lesions of aflatoxicosis are developed on duckling consuming peanut meal not detoxified dosing about 285 mug/kg of Aflatoxin B1. Lesions are very slight, but present, on liver and kidney in detoxified peanut meal fed duckling. For kidney's lesions there are no differences between detoxified or not group, duckling eating detoxified peanut meal have absorbed 0,4 mug of Aflatoxin B1 during the eight first days of experiment and 8 to 10 mug during four weeks. These considerations explain light lesions observed and underlines duckling's sensitivity regarding aflatoxicosis.

90. Moneret-Vautrin DA Kirch F Kanny G Fremont S: [Fatal anaphylactic shock caused by peanuts (letter; comment)]. Choc anaphylactique mortel a l'arachide. Arch Fr Pediatr (1993 Oct) 50(8):722 (Published in French). [No Abstract Available]

91. de Montis G Truong M Toussaint B Berman D Toudoire C
[Peanut allergy, iatrogenic disease? (letter)]. L'allergie a la cacahuete, pathologie iatrogene? Arch Fr Pediatr (1993 Feb) 50(2):175(Published in French). [No Abstract Available]

92. de Montis G Truong M Toussaint B Berman D Toudoire C: [Peanut sensitization and oily solution vitamin preparations]. Sensibilisation a l'arachide et preparations vitaminiques en solution huileuse. Arch Pediatr (1995 Jan) 2(1):25-8. (Published in French).

BACKGROUND AND METHODS--Early sensitization to peanut can occur through milk formulas which contain peanut oil. Thus, the groundnut allergens in relation to the early feeding have been systematically tested in all children referred to the paediatric allergy unit for symptoms not related to peanut allergy. RESULTS--Out of 102 children, 4 to 35 months old, 19 had a positive test (weal > 3 mm). Neither breast feeding nor milk formulas changed the frequency of sensitization. On the contrary, vitamin D preparations in groundnut oil significantly increased the risk ($p < 0.008$). Odds ratios were 5.47 in the case of neonatal prescription, 4.82 in case of delayed prescription. Odds ratio increased to 8.25 ($p < 0.04$) in allergic children under two years who had received oily vitamin D preparation during their neonatal period. CONCLUSIONS--The result suggest to leave groundnut oil out of all foods and drugs given to infants and young children, as required for infantile milk formulas.

93. Ehrhart LA Holderbaum D: Aortic collagen, elastin and non-fibrous protein synthesis in rabbits red cholesterol and peanut oil. Atherosclerosis (1980 Nov) 37(3):423-32

Alteration of the fatty acid composition of atherogenic test diets has been a widely recognized

method for influencing the character and severity of atherosclerotic lesions. The addition of peanut oil or coconut oil to cholesterol-supplemented diets has been shown to produce lesions of a fibrous nature in several species. In the present study, addition of 8% peanut oil to a 2% cholesterol diet accelerated the formation of atherosclerotic lesions which were more fibrous after only 90 days than those previously seen in rabbits even after 6 months on a diet supplemented with cholesterol alone. Collagen, elastin and non-fibrous protein synthesis were all increased over control values, as previously seen in aortas from rabbits given cholesterol supplementation alone. However, the addition of peanut oil to the 2% cholesterol diet produced a preferential increase in the rate of aortic collagen synthesis per unit dry, defatted weight compared with the increases seen in elastin, non-fibrous protein or total protein synthesis. Collagen deposition in proliferative intimal plaques was evident by histological examination. These focal accumulations, however, did not result in significant increases in either total collagen content of the whole descending thoracic aorta or in collagen concentration expressed per unit of dry, defatted weight. These data suggest that, while a portion of the increased synthetic rates may be a direct result of aortic hyperplasia, the proportionally greater increase in collagen synthesis in these lesions is attributable to the addition of peanut oil to the atherogenic diet. Although the lesions produced in this experiment lacked the overt fibrosis seen in man and in some forms of experimentally induced atherosclerosis, the relative synthetic rates of collagen, elastin and nonfibrous protein described here suggest that even a small preferential increase in collagen synthesis compared with non-collagen protein synthesis may gradually lead to a more fibrous lesion.

94. Vesselinovitch D Wissler RW Schaffner TJ Borensztajn J: The effect of various diets on atherogenesis in rhesus monkeys. Atherosclerosis (1980 Feb) 35(2):189-207. [No Abstract Available].

95. Kemp A: Facts and fallacies about food allergy in children. Aust Fam Physician (1984 Mar) 13(3):194-5.
[No Abstract Available].

96. Doyle AJ: Anaphylactic reactions to peanuts [editorial]
Br Dent J (1995 Feb 11) 178(3):87-8. [No Abstract Available].

97. Ye ST Fu YX; [Analysis of 40 cases of asthma induced by common foods in China]. Chung Hua I Hsueh Tsa Chih (1986 Jul) 66(7):427-9. (Published in Chinese). [No Abstract Available]

98. Guo HW: [The study of the relationship between diet and primary liver cancer]. Chung Hua Yu Fang I Hsueh Tsa Chih (1991 Nov) 25(6):342-4. (Published in Chinese).

Two dietary surveys were carried out in a high prevalence area of primary liver cancer (PLC) and a low PLC area in the Guangxi Zhuang Autonomous Region of China in 1987 and 1988 respectively. The results of these two surveys were similar and no statistical significant differences were observed. They showed that negative correlations between the mortality rates of PLC and the intake amount of rice, fruit, vegetable, energy, protein, crude fiber and ascorbic acid existed. However, between the mortality rates of PLC and the intake of corn, and peanut oil, positive correlations were noted. The aflatoxin content of corn, peanut and peanut oil was greater

than that of rice, hence the possible relationship between aflatoxin and PLC. It suggested that diet and nutrients could affect PLC mortality rates.

99. Yu SZ: [The aflatoxins and liver cancer in Guangxi, China]. Chung Hua Yu Fang I Hsueh Tsa Chih (1992 May) 26(3):162-4. (Published in Chinese).

The AFB1 intake and the AFM1 excretion of 81 households in 10 villages, Guanxi were investigated using the ELISA method. The results showed that there was positive correlation between PLC mortality and AFB1 intake from corn and peanut oil, but not from rice. The results of stepwise regression showed that main factors were AFB1 intake of males, AFM1 excretion of females and consumption of corn. The results showed that aflatoxins were correlated with mortality rates of liver cancer. Further investigation needs to be carried out in case-control and cohort studies.

100. May CD Remigio L: Observations on high spontaneous release of histamine from leucocytes in vitro. Clin Allergy (1982 May) 12(3):229-41

Clinical and laboratory observations are provided on high, spontaneous, in vitro histamine release (HSHR) from leucocytes (basophils), meaning without addition of antigen or other inducers of histamine release. HSHR has been observed predominantly in persons with a high degree of reaginic sensitivity to food; the leucocytes of forty-eight of fifty-eight individuals (83%), who had positive reactions to foods in double-blind challenges, exhibited HSHR. HSHR resembles antigenic release in a wide variety of characteristics. HSHR does not occur in vivo but only in vitro after compaction of leucocytes by centrifugation at room temperature. An indispensable requirement for HSHR to occur appears to be a high degree of reaginic sensitization.

101. Aas K: The diagnosis of hypersensitivity to ingested foods. Reliability of skin prick testing and the radioallergosorbent test with different materials. Clin Allergy (1978 Jan) 8(1):39-50.

The diagnostic reliability in food allergy of skin prick tests (SPT) and the radio-allergosorbent test (RAST) was investigated in paediatric patients with respiratory and skin allergies. SPT and RAST were found to be reliable for the diagnosis of allergy to codfish, peas, nuts, peanuts and egg white. Positive SPT and RAST to cereals were common, but were most often without clinical significance or were correlated with respiratory allergy to the inhalation of flour dust. SPT and RAST were only partly reliable with regard to allergy to cow's milk, and were mostly reliable when used together and showing corresponding results. Experimental allergosorbents for RAST with soy beans and white beans were not reliable. The study shows the need to improve the diagnostic materials and to establish the diagnostic reliability of the material and tests used for each food item in question.

102. Bock SA Buckley J Holst A May CD: Proper use of skin tests with food extracts in diagnosis of hypersensitivity to food in children. Clin Allergy (1977 Jul) 7(4):375-83

This study was undertaken to determine the proper use of skin tests with food extracts in diagnosis of hypersensitivity to food in children. Cutaneous reactions evoked by graded amounts

of food extracts were compared with results of double-blind food challenge and in vitro release of histamine from leucocytes. A 3 mm or greater weal reaction in skin tests by puncture technique using food extracts of 1:20 w/v concentration was found to indicate the degree of hypersensitivity likely to be associated with clinically significant hypersensitivity reactions to food. Proper use of this simple technique will facilitate accurate diagnosis of food hypersensitivity in children by identifying the group among whom all positive reactions to food challenges will be found. Nevertheless, double- blind food challenge is essential to establish a diagnosis of symptomatic hypersensitivity to food.

103. Kemp AS Mellis CM Barnett D Sharota E Simpson J: Skin test, RAST and clinical reactions to peanut allergens in
children. Clin Allergy (1985 Jan) 15(1):73-8

One-hundred-and-four children were skin-tested with four peanut- allergen preparations, a commercial extract, extracts of raw and roast peanuts prepared by NH4HCO3 extraction, and a wheatgerm lectin- reactive glycoprotein obtained by affinity chromatography. The presence of symptoms after ingestion of peanut or peanut products was also recorded. The roast allergen extract provided the greatest specificity with eight symptomatic children having a positive skin test and only one positive skin-test reaction in an asymptomatic child in the group of 104 children tested. Despite differences in the incidence of skin-test reactions there was a strong correlation between raw, roast and commercial RAST suggesting common allergens were being identified by circulating IgE. Clinical sensitivity was observed particularly in younger children with 75% of the children being under 4 years of age. A positive roast skin test or a RAST test adds confirmation to the clinical history of allergic reactions to peanuts.

104. Loza C Brostoff J: Peanut allergy. Clin Exp Allergy (1995 Jun) 25(6):493-502. [No Abstract Available]

105. Mathias CG: Contact urticaria from peanut butter. Contact Dermatitis (1983 Jan) 9(1):66-8.

A patient with multiple atopic allergies, atopic facial dermatitis, and a generalized atopic skin diathesis developed (i) angioedema of the lips and tongue following ingestion of peanut butter, and (ii) localized urticarial reactions following direct skin contact. Open testing with peanut butter demonstrated probable immunologic contact urticaria. The relationship of contact urticaria to the atopic skin diathesis is discussed.

106. Oranje AP Van Gysel D Mulder PG Dieges PH: Food-induced contact urticaria syndrome (CUS) in atopic dermatitis: reproducibility of repeated and duplicate testing with a skin provocation test, the skin application food test (SAFT). Contact Dermatitis (1994 Nov) 31(5):314-8

IgE-mediated contact urticaria syndrome (CUS) is one of the manifestations of allergy in childhood atopic dermatitis (AD). Allergens such as foods and animal products penetrate the skin easily. They can then cause urticarial reactions in sensitized individuals. A provocation test system for foods, called the skin application food test (SAFT), has been developed. Over more than 5 years, a group of 175 patients with AD was built-up and investigated in a prospective

follow-up study with SAFT. SAFT was more frequently positive in AD children aged 0-2 years than in older children. In several children of this population (Group 1), we repeated SAFT within a period of 1 year. In another unrelated group of children (Group 2-1), we compared the results of 'original' SAFT and SAFT using square chambers (Van der Bend) or Silver patches. In the 3rd group (Group 2-2) we compared 'original' SAFT with SAFT using big Finn Chambers. The agreement between the tests was high: in Group 1, we observed 88 to 93% concordant scores, and in Group 2, the scores were 96% to 100%. Statistically, the kappa coefficient ranged from 0.71-0.87 in Group 1, and from 0.83-1.00 in Group 2. SAFT is therefore highly reproducible. Agreement was at least > or = 88% between the scores (the lowest kappa value observed was at least 0.71).

107. Berman BA Ross RN: Food allergy. Cutis (1983 Apr) 31(4):362, 364, 366. [No Abstract Available].

108. Butler WH Barnes JM: Carcinogenic action of groundnut meal containing aflatoxin in rats. Food Cosmet Toxicol (1968 Aug) 6(2):135-41. [No Abstract Available]

109. Interlandi J: Controlling allergic parotitis from foods. IMJ Ill Med J (1973 Jun) 141(6):541 passim. [No Abstract Available]

110. Angelo AJ St Ory RL; Effects of lipoperoxides on proteins in raw and processed peanuts. J Agric Food Chem (1975 Mar-Apr) 23(2):141-6. [No Abstract Available].

111. Worthington RE Beuchat LR: Alpha-galactosidase activity of fungi on intestinal gas-forming peanut oligosaccharides. J Agric Food Chem (1974 Nov-Dec) 22(6):1063-6. [No Abstract Available].

112. Alfin-Slater RB Wells P Aftergood L Melnick D: Safety of nuts heat-processed in molten hexitols. J Am Oil Chem Soc (1973 Sep) 50(9):348-52. [No Abstract Available]

113. Ray AC Abbitt B Cotter SR Murphy MJ Reagor JC Robinson RM West JE Whitford HW: Bovine abortion and death associated with consumption of aflatoxin-contaminated peanuts. J Am Vet Med Assoc (1986 May 15) 188(10):1187-8.

Approximately 12% of a herd of 68 crossbred cows aborted third-trimester fetuses after consuming moldy peanuts for 4 days. Further investigation revealed that less than 20% of the herd had access to this supplemental feed. Results of serum biochemical analysis indicated liver damage in the affected cows. All of these cows died within 8 days of aborting. The peanuts contained 77 micrograms aflatoxin B1/g, as determined by liquid chromatography. Tissues were submitted from 1 cow, and liver contained 5 ng aflatoxin B1/g. Results of other laboratory tests were negative for common toxins and abortifacients.

114. Morijiri M Seto H Kageyama M Shimizu M Nagayoshi T Watanabe N Kakishita M: Assessment of peanut aspiration by MRI and lung perfusion scintigram. J Comput Assist Tomogr (1994 Sep-Oct) 18(5):836-8. [No Abstract Available]

115. Ross AH McCormack RJ: Foreign body inhalation. J R Coll Surg Edinb (1980 Mar) 25(2):104-9. [No Abstract Available].

116. Crook WG: The coming revolution in medicine. J Tenn Med Assoc (1983 Mar) 76(3):145-9. [No Abstract Available].

117. Robinson RM Ray AC Reagor JC Holland LA: Waterfowl mortality caused by aflatoxicosis in Texas. J Wildl Dis (1982 Jul) 18(3):311-3.

Waterfowl mortality caused by aflatoxicosis occurred in two separate areas in Texas during the 1977-78 wintering season. The first outbreak occurred in snow geese (Anser caerulescens) on the Gulf Coast prairies, followed by an outbreak in mallards (Anas platyrhynchos) in the north-central portion of the state. Aflatoxin B1 levels in geese were 500 ng/g (dry weight). Aflatoxin B1 levels in the second mortality were 10-250 ng/g (dry weight). The exact source of the toxin was not demonstrated in the first outbreak, but in the second outbreak was traced to waste peanuts, which constituted a major portion of the diet of wintering waterfowl in north-central Texas. Aflatoxin B1 levels in the field peanuts collected in the general areas were 110 ng/g.

118. Windingstad RM Cole RJ Nelson PE Roffe TJ George RR Dorner JW: Fusarium mycotoxins from peanuts suspected as a cause of sandhill crane mortality. J Wildl Dis (1989 Jan) 25(1):38-46.

An estimated 9,500 sandhill cranes (Grus canadensis) died in Gaines County, Texas and Roosevelt County, New Mexico between 1982 and 1987. The predominant clinical sign observed in sick cranes was their inability to hold their heads erect, both while standing and flying. Multiple muscle hemorrhages and submandibular edema were the most common lesions seen at necropsy. Mycotoxins produced by Fusarium sp. growing during cold, wet weather on peanuts left in the field after harvest, the predominant foods of the dead cranes at the time of these mortality events, were identified as the most likely cause of this mortality. Rendering moldy peanuts inaccessible to the cranes by conventional tillage resulted in reduced crane mortality in these areas.

119. Sheldon WG Banks WC Gleiser CA: Osteomalacia in captive flying squirrels, Glaucomys volans. Lab Anim Sci (1971 Apr) 21(2):229-33. [No Abstract Available].

120. Rosskopf WJ Woerpel RW Yanoff SR Howard EB Britt JO: Dietary-induced parathyroid hyperplasia in a macaw. Mod Vet Pract (1981 Oct) 62(10):778-9. [No Abstract Available].

121. Sampson HA: Food hypersensitivity as a pathogenic factor in atopic dermatitis. N Engl Reg Allergy Proc (1986 Nov-Dec) 7(6):511-9.

The role of food hypersensitivity in the pathogenesis of atopic dermatitis has been debated for years. One-hundred thirty-two children with severe atopic dermatitis were evaluated for food hypersensitivity using double-blind placebo-controlled oral food challenges. Fifty-nine percent of

the children experienced at least one immediate hypersensitivity response. Definitive diagnosis of food allergy and initiation of an appropriate elimination diet resulted in significant clinical improvement in the majority of patients with atopic dermatitis and food hypersensitivity.
122. Sheehan RK Abraham JL: Confusing labeling of food products [letter]. N Y State J Med (1991 Dec) 91(12):553-4. [No Abstract Available].

123. de Maat-Bleeker F: [Etiology of hypersensitivity reactions following Chinese or Indonesian meals (published errata appear in Ned Tijdschr Geneeskd 1992 Mar 7;136(10):496 and 1992 Dec 26;136(52):2600)]. De etiologie met betrekking tot overgevoeligheidsreacties na Chinese of Indonesische maaltijden. Ned Tijdschr Geneeskd (1992 Feb 1) 136(5):229-32 (Published in Dutch).

Various authors have criticised or confirmed the relation between adverse reactions to Chinese food ('The Chinese Restaurant Syndrome') and the use of monosodium glutamate (Vetsin). In our experience the occurrence of urticaria, angioedema or anaphylaxis after meals in Chinese or Indonesian restaurants is more often due to IgE-mediated Type I food allergy, caused by consumption of shrimp, peanut or spices, in particular those of the parsley family (e.g. coriander). A detailed description of four such cases is presented.

124. Pensala O Niskanen A Lahtinen S: The occurrence of aflatoxin in nuts and nut products imported to Finland for human consumption during the years 1974-1976. Nord Vet Med (1977 Jul-Aug) 29(7-8):347-55.

An examination was made of 1050 lots of nuts and nut products,
totalling 4.7 million kg, imported to Finland in the years 1974-1976. Of these, 44 lots (4.2%) were found to contain aflatoxin. The highest percentage of aflatoxin-containing lots, was observed in the case of sliced and crushed peanuts (29.4%). Of the positive samples, 20.5% contained 101-500 microgram aflatoxin per kg, 52.3% contained 6-100 microgram/kg and 20.5% contained less than or equal to 5 microgram/kg. Rest of the samples (6.7%) contained aflatoxin 501 microgram/kg or more. The most commonly detected toxin types were B1 and B2. The proportion of aflatoxin-containing lots showed a slight decrease during the 3-year research period. On the basis of the research results and the sampling plan used, and bearing in mind the acceptable quality level (AQL: 5 microgram/kg) employed in Finland, the reliability of approval and rejection decisions was discussed from the point of view of both the producer's and the consumer's risk.

125. Moneret-Vautrin DA Hatahet R Kanny G: Risks of milk formulas containing peanut oil contaminated with peanut allergens in infants with atopic dermatitis. Pediatr Allergy Immunol (1994 Aug) 5(3):184-8.

Four cases of infants with atopic dermatitis are reported. In all cases, a sensitization to peanut is demonstrated. Any ingestion of peanuts can be excluded, with the exception of a daily consumption of peanut oil, contained in milk formulas. Oral challenges with peanut oil induce a rash, and elimination of these brands is followed by the disappearance of eczematous lesions. The presence of residual allergenic proteins in peanut oil is thus suspected. Owing to the growing incidence of peanut hypersensitivity, the elimination of peanut oil from all milk formulas, food

for babies, and ointments, seems to be highly advisable.

126. Dorion BJ Leung DY: Selective expansion of T cells expressing V beta 2 in peanut allergy. Pediatr Allergy Immunol (1995 May) 6(2):95-7.

Peanuts are the most common cause of fatal and near-fatal food-induced anaphylaxis. The immune basis for susceptibility to peanut allergy is poorly understood. The current study examined the possibility that patients with peanut allergy, as compared to normals, use different T cell receptor variable beta regions (V beta) in the recognition of peanuts. The results demonstrate that stimulation of T cells from patients with peanut allergy results in the selective expansion of V beta 2+ T cells.

127. Kalapos I: [Acute peroral poisoning with peanut oil distillates] Akute perorale Vergiftungen mit Erdoldestillaten Pharm Acta Helv (1975) 50(7-8):205-15 (Published in German) [No Abstract Available]

128. Viegas AP: [Are peanuts anorexigenic?] Amendoim anorexigeno. Rev Bras Med (1971 May) 28(5):189-90 (Published in Portuguese) [No Abstract Available]

129. Henriksen JM Dahl R Alsbirk KE: [Peanut allergy. Diagnosis (P-K test) in a severe case and problems of prevention] Jordnoddeallergi. Diagnostik (P-K test) af et svaert tilfaelde og problemer ved forebyggelse. Ugeskr Laeger (1987 Sep 7) 149(37):2466-8. (Published in Danish). [No Abstract Available]

130. Rogov VD: [Toxidermia caused by peanuts]. Toksidermiia ot zemlianogo orekha. Vestn Dermatol Venerol (1988)(4):67-8.
(Published in Russian). [No Abstract Available]

131. Uhlemann L Becker WM Schlaak M: [Food allergy: identifying and characterizing peanut allergens with patient sera and monoclonal antibodies]. Nahrungsmittelallergie: Identifizierung und Charakterisierung von Erdnussallergenen mit Patientenseren und monoklonalen Antikorpern. Z Ernahrungswiss (1993 Jun) 32(2):139-51. (Published in German).

The purpose of this study is to improve the diagnosis of peanut allergy. In order to standardize test substances for in vivo and in vitro diagnostic, the type I allergy-associated single components of peanuts have been identified and characterized with the aid of patients' sera and monoclonal antibodies. For allergen detection IEF- immunoprint-, SDS-PAGE-immunoblot- and 2-D electrophoresis-techniques have been used. A comparison of control sera and patients' sera showed that both contained peanut specific IgG-, IgA- and IgM- antibodies. In contrast, peanut-specific IgE-antibodies were only detectable with patients' sera. In IEF-immunoprint the most intensive IgE-bindings showed up in pl-range from pH 5.5 to 7.5. In SDS-PAGE-immunoblot major allergens could be identified at molecular weight ranges of 17, 30, 48 to 66 and 116 kD. Raising monoclonal antibodies against IgE-reactive components from peanut extract resulted in eight antibody-producing hybridoma cell lines, named PN-a to PN-h. ELISA-inhibition tests revealed common epitopes of monoclonal antibodies and patients' antibodies. Moreover, the monoclonal antibodies were tested to see whether they can be used for detection of

hidden peanut allergens.

132. On a Masse Breast Cream we read the warning: "Contains arachis (peanut) oil, which might expose infant to potential allergens".