coating diazo releases easily thiourea. The diagnosis of allergic contact dermatitis to diazo paper requires a diagnostic approach based on an extensive history and on the practice of patch tests with the paper himself and even its ingredients.

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Cross reactivity as a cause of sensitisation to multiple woods

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Background: Wood dust is able to trigger rhinitis and asthma in carpenters and other exposed subjects. We report a multiple IgE-mediated sensitization to different woods that caused occupational respiratory symptoms in the same worker.
Method: A carpenter developed rhinitis and asthma when exposed to obeche, iroko, cerejeira, oak and pine woods. In-house extracts were made, and skin prick test and bronchial challenge were performed. Specific IgE was measured by ELISA, and cross-reactivity was assessed by ELISA cross-inhibition assays. Presence of low molecular weight substances was tested using gas chromatography combined with mass spectrometry (GC-MS).
Result: Skin prick test and specific inhalation challenges were positive to obeche, iroko, cerejeira and pine, and negative to oak. Specific IgE was positive for obeche, pine tree and iroko, and negative to cerejeira and oak. ELISA cross-inhibition assays demonstrated that pine strongly inhibited obeche in solid phase (85%), while iroko showed weak inhibition. A similar pattern was shown when pine was used as solid phase where obeche inhibits pine by almost 70%. Pine extract was tested by GC-MS, detecting abietic acid (23%) and dehydroabietic acid (51%) as principal low molecular weight compounds. ELISA inhibition immunoassay did not show inhibition of patient's IgE binding by abietic acid as a liquid phase inhibitor.
Conclusion: Multiple sensitization with cross-reactivity among different unrelated woods in the same worker is demonstrated by immunoassays. Presence of low molecular compounds (abietic and dehydroabietic acids) with no IgE binding activity was demonstrated in pine.

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Proteomic characterisation of zinc oxide nanoparticles and immunotoxic effects on A549 cells-implications for occupational exposure

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Background: Engineered nanomaterials such as metal oxide nanoparticles (NPs) offer unique physico-chemical properties and are widely used in sunscreen formulations and personal care products. NPs become coated with proteins when exposed to biological fluids, forming the 'nanoparticle-protein corona' (NP-PC), which may affect its overall bioactivity *in vivo*. Information regarding the interaction of NPs with biomolecules and the associated risks of exposure to NPs is limited and needs further investigation. Exposure to NPs via inhalation is an important concern especially in the occupational setting. This study aimed to characterize the NP-PC formation on zinc oxide NPs (ZnO-NPs) with fetal bovine serum (FBS) proteins and the immunotoxic effects on human lung epithelial cells (A549).
Method: NP-PC of pristine or surfactant-dispersed (sZnO-NP) particles (30, 80 and 200 nm) were incubated in cell culture media (RPMI-1640 with 10% FBS). Proteins forming the corona were quantified using Bradford protein assay, separated by SDS gel electrophoresis and identified by MALDI-TOF mass spectrometry (MS).
Result: Protein binding studies indicate that pristine ZnO-NP (30 > 80 > 200 nm) bind significantly more proteins then surfactant-dispersed. Pristine ZnO-NP and sZnO-NP (30 and 80 nm) selectively bound proteins of either 11 or 14 kDa, respectively. MS analysis revealed most binding proteins to be derived from larger proteins (i.e. hemoglobin, albumin and histone). However, small intact proteins were also enriched on sZnO-NP surfaces, such as glucagon (3.4 kDa), apolipoprotein A-II (17 kDa) and apolipoprotein C-III (8.7 kDa), which are major constituents of high-density lipoproteins. Preliminary immunotoxicity data on human epithelial cells demonstrated increased IL-8 release for 30 nm ZnO-NP; with sZnO-NP causing a lesser stimulatory effect.
Conclusion: In summary, we have demonstrated that, when compared to pristine ZnO-NP, the surfactant-dispersed NPs bind less protein and elicit a reduced pro-inflammatory IL-8 release in human lung epithelial cells. However, small physiological-important proteins such as apolipoproteins are enriched on sZnO-NP, which needs further investigation.

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Occupational rhinitis due to chicken meat in a butcher

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We report the case of a 58-year-old butcher caucasian man. He presented in the last 4 years outbreaks of nasal obstruction, sneezing and runny nose, with morning predominance which improved spontaneously in a couple of days. After an asymptomatic period out of work for 4 months, when he returned to his work as a butcher, the symptoms elicited again in relation with meats handling, specially of chicken. There was not bronquial nor cutaneous symptoms. The patient referred good tolerance to meat ingestion.

Allergollogic study and results: *Skin prick tests*: Negative results against commercial extracts (Lab. ALK-Abello, Lab Bial-Aristegui) of latex, mites, pollens, fungal spores, animal epitheliums, feathers and egg proteins and positive results by means of prick by prick test against fresh meats from pig, chicken, cow and lamb. We also carried out skin prick tests with raw an cooked meat extracts (Lab. Bial-Aristegui) of rabbit, pig, lamb, chicken, ostrich, duck, turkey and quail, obtaining positive results only against the raw extracts. We have not found sensitization to cetuximab Total IgE serum was 98 UI/ml. Specific IgE by EAST, for meats of chicken 2.8 kU/l, pig 0.6 kU/l, cow 0.7 U/l, rabbit 0.7 kU/l and lamb 0.8 kU/l. SDS-PAGE Immunoblotting in reducing (2-mercaptoethanol) and non-reducing conditions, revealed a strong band from 32 to 35 kDa in all the meat extracts tested (mammals and chicken). The immunoblotting inhibition study showed the presence of cross reactivity among the 34 kDa IgE binding bands from mammal meats but not with the chicken meat one. *Nasal challenge test by Rhinomanometry*: Positive result with chicken meat extract and negative with beef meat extract. Five non atopic patients were used as controls.
Conclusion: We present a case of occupational rhinitis, in a butcher, due to the inhalation of aerosolized particles of chicken meat with good oral tolerance. As far as we know, this is the first case of rhinitis in relation with chicken meat exposition.