viving fetuses, including fetal body weight, crown-rump length, tail length, or placental weight, were induced by DBTCl. No external, internal or skeletal malformations were detected in fetuses in any group. Although skeletal variations were found in fetuses, no increased incidence of fetuses with variation was noted in the DBTCl-treated groups. No effect on skeletal ossification was also observed in fetuses in the DBTCl-treated groups. These data confirmed our previous findings that DBTCl was embryolethal but not teratogenic in cynomolgus monkeys. Furthermore, the data show that the susceptibility to developmental toxicity of DBTCl varies with the developmental stages at the time of administration, and developing offspring on day 24–26 of pregnancy are highly susceptible to embryolethal effects of DBTCl in cynomolgus monkeys.

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P14-07

Analysis of toxic metals in Inorganic bovine bone for implant

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An anorganic bone is a bone that has been taken out all its organic matter, it is used for surgical implants and it is denominated xenoimplant or xenogenic implant. Xenogenic implants are those obtained from individuals of different species from that who receives it. When an implant is required, all the conditions of biocompatibility must be fulfilled, which can be divided in both physical-chemical and medical-biological requirements.

In this research, the Ca/P relation and the elements Arsenic, Cadmium, Mercury and Lead were determined in treated bovine condyle bone by Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES). Those elements are considerated highly toxic and must be measured in the inorganic bovine bone as part of the physical-chemical characteristics in order to prove that this kind of bone can be used as a xenoimplant.

Small pieces were sliced from bovine condyle bone and were subjected to cleaning with special soaps and heated, trying not to loose its mechanical properties. The samples obtained were decomposed by a microwave sample preparation system. In order to determine the Ca/P ratio and the trace amounts of Pb, Cd, As and Hg the ICP-OES technique was used. The detection and quantification limits as well as the % of recovery were determined.

In this case, the relation Ca/P value expected for the bone is $1.4 < Ca/P < 4.0$ and the obtained value was 2.08. To consider the bone an implant the trace concentrations must be lower than the next limits: 3 μg/mL for As, 5 μg/mL for Cd, 5 μg/mL for Hg and 30 μg/mL for Pb. The obtained values were 0.4 μg/mL, 2.7 μg/mL, 0.3 μg/mL and 26.4 μg/mL, respectively.

ICP-OES technique allows the multiple simultaneous analysis of Ca and P and the toxic elements with a very small uncertainty in the results. As, Cd, Hg and Pb concentrations were lower than the maximum values for anorganic bone for surgical implants established by the American Standard Testing Materials (ASTM). The relation Ca/P value is acceptable considering that the value of stoichiometric hydroxyapatite is 1.6. These results and the other biocompatibility tests of the anorganic bone, show that it can be used as a xenoimplant.

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P14-08

Genetic polymorphisms of arsenic (+3 oxidation state) methyltransferase (AS3MT) influences arsenic metabolism—Evidence from a population group in Argentina

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The susceptibility to arsenic-induced diseases differs greatly between individuals. This may be due to inter-individual variation in arsenic metabolism, which affects the retention and distribution of toxic metabolites. Most likely, this variation is largely due to hereditary factors. To further elucidate the role of specific genetic factors in arsenic metabolism, we studied how polymorphisms in six arsenic-metabolizing genes affected arsenic metabolite pattern in urine of an indigenous population group in Argentina. This group had a fairly high arsenic exposure and low levels of monomethylated arsenic (MMA), of which the reduced form is one of the most toxic arsenic metabolites. The genes studied were arsenic (+3 oxidation state) methyltransferase (*AS3MT*), glutathione S-transferase omega 1 (*GSTO1*), methylene synthetase (*MTR*), methylenetetrahydrofolate reductase (*MTHFR*), glutathione S-transferase mu 1 (*GSTM1*) and glutathione S-transferase theta 1 (*GSTT1*). We found that