

## **RADIOACTIVITY DISTRIBUTION IN A YOUNG DOG DOSED ORALLY WITH (ACETYL-1-<sup>14</sup>C) CHONDROITIN SULPHATE**

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Chondroitin sulphate is used in the management of canine osteoarthritis. The aim of this study was to investigate the fate of the compound after an oral administration. (Acetyl-1-<sup>14</sup>C) chondroitin sulphate was supplied as a solid in a borosilicate vial by Amersham.

A young female beagle (3 months old) was provided by Harlan France. It was weighing 4 kg. After a two week-period of acclimation, food was withdrawn the day before the experiment, at 5.p.m. (Acetyl-1-<sup>14</sup>C) chondroitin sulphate was dissolved in saline so that the volumic radioactivity was 37 MBq/ml. The animal was fed by gastric tubage at 8.30 am with the aqueous solution. The tube was rinsed twice with saline. Blood samples were obtained by venipuncture of the jugular vein 60, 150, 300, 480, 1440 and 2880 minutes after oral tubage. All blood samples were prepared for liquid scintillation counting. At the end of the experiment, the animal was sacrificed using an intravenous injection of lethal dose of barbiturics. Then it was prepared for a whole-body autoradiographic study. A quantitative analysis was performed using image analysis.

The results obtained by liquid scintillation counting of blood samples demonstrate that radioactivity is found in whole blood, plasma, and in blood cells. The peak of radioactivity is obtained 6 hours after dosage. Then there is a slight decrease, so that, 48 hours after dosage, the blood concentration is one third of peak level. Autoradiograms reveal that radioactivity is distributed in all the organs. The highest concentration is present in bile (in gall bladder and biliary ducts). A moderate radioactivity is detected in the liver, the wall of the stomach and small intestines, different glands (thymus, thyroid, adrenal), bone marrow. When considering sections obtained in limbs, radioactivity is found in bone marrow and a lower concentration is present in cartilage.