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ALLERGY TO "SULFA" DRUGS, SULFITES, SULFIDES INORGANIC SULFUR, AND THEIR RELATIONSHIP TO ^{99m}Tc-SULFUR COLLOID

It has come to my attention that, from time to time, Pharmalucence has received inquiries from healthcare professionals regarding patients presenting with a history of allergic reaction to "sulfa" drugs, sulfites, inorganic sulfur, and the safety of giving Sulfur Colloid[1] to those patients.

The allergic reaction to "sulfa" drugs is a reaction to organic sulfur-containing compounds having a sulfhydryl group (-SH) or a disulfide linkage (-S-S-). The disulfide bond undergoes enzymatic cleavage in vivo to 2 sulfhydryl groups. These classes of drugs, RSH and RSSR, where R represents an organic moiety, are known to be antigenic and are capable of initiating an allergic response. Technetium-99m sulfur colloid contains only inorganic sulfur and is completely void of any sulfhydryl or disulfide groups and as such is not contraindicated in patients with a known allergy to "sulfa" drugs.

In addition to elemental sulfur there are four other common forms of inorganic sulfur; sulphate (SO_4^{-2}), thiosulfate ($S_2O_3^{-2}$), sulfide (S^{-2}), and sulfite (SO_3^{-2}). The most common allergy to these species is to sulfites, found in canned foods and wine. There are no sulfites in Tc-sulfur colloid so the agent can be used safely in patients with a known sulfite allergy. On the other hand, it is possible to have minute traces of sulfide or thiosulphate present in ^{99m}Tc-sulfur colloid. Therefore, if a patient presents with a known allergy to inorganic sulfur and it is unknown whether it is specifically to only sulfites, the administration of ^{99m}Tc-sulfur colloid should be considered ill-advised and only given when the benefit is determined to far outweigh the risk.

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1. Patton DD, Garcia EN, Webber MM : Simplified preparation of technetium 99m sulfide colloid for liver scanning. Amer J Roentgen 97: 880-885,1966

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