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# A Close Examination of Pulmonary Uptake of $^{99m}$Tc-Tin Colloid in Mature Miniature Pigs

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$^{99m}$Tc-Tin colloid is the most commonly used colloidal radiopharmaceuticals in human medicine for evaluating the liver function and morphology. It is showing hepatic uptake by the phagocytic activity of Kupffer cells, reticuloendothelial cells of the liver. Dissimilarly in human beings, we found $^{99m}$Tc-Tin colloid uptake within lung and liver in mature miniature pigs. And it may be explained by the presence of pulmonary intravascular macrophages (PIMs) closely apposed to the endothelium of the pulmonary capillaries in several animal species, such as sheep, horse, goat, cat and pig. In this study, we compared scintigraphic images using $^{99m}$Tc-Tin colloid in rats and mature miniature pigs, and identified the presence of PIMs, reticuloentothelial cells like Kupffer cells, by immunohistochemistry in pigs. In results, pulmonary uptake of $^{99m}$Tc-Tin colloid was occurred only in pigs, and PIMs in the pulmonary capillaries were stained positively for mouse monoclonal MAC387 to macrophage in lung sections, as well as Kupffer cells in liver sections. Therefore we could conclude that uptake of intravenously injected $^{99m}$Tc-Tin colloid within both Kupffer cells and PIMs results scintigraphic imaging of lung and liver in miniature pigs.

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