Imaging examinations requiring the administration of contrast agents pose two problems for the pregnant woman: the irradiation or exposure to a magnetic field of the embryo and the foetus, and the possible diffusion of the contrast agent through the placenta. Very few studies are available on that issue, but prudence should prevail.

The problem of irradiation has been studied by a group of experts under the aegis of the Société Française de Radiologie and the Office de Protection contre les Rayonnements Ionisants. The conclusions can be read on the website of the SFR: la SFR > Groupes de Travail > DG Euratom 97/43 > Guide des procédures radiologiques: critères de qualité et optimisation des doses.

In this text, we tackle the problem of contrast media administration.

**IODINATED CONTRAST MEDIA**

No teratogenic effects were found in vivo with iodinated contrast media tested in animals.

If an examination with injection of iodinated contrast media is done after 12 weeks of amenorrhea, the punctual excess of iodides following the administration of contrast media can lead to transitional foetal thyroid malfunction (usually hypothyroidism.)

**MRI CONTRAST MEDIA**

There are not enough data about the pregnant woman. As a consequence, the administration of an MRI contrast agent is not advised, but an injection can be done once risks and benefits have been weighed.

2 MRI contrast agents have proved toxic in animals:
- dimeglumine gadobenate (Multihance®): studies on animals have revealed toxicity on reproductive functions. The potential risk for humans is unknown. Multihance will not be used during pregnancy except in cases of absolute necessity.
- mangafodipir (Teslascan®): studies on rats have revealed teratogenic effects and studies on rabbits foetotoxicity and embryo toxicity. Thus, Teslascan should not be used on pregnant women.
ADVICE/RECOMMENDATION

- By virtue of the principle of precaution:
  - Except for echographs, every non-emergency examination that can be delayed until birth should be postponed.
  - When imaging examination is essential, and if the administration of contrast media is necessary, the examination can be done at any time of the pregnancy.
  - If a pulmonary embolism is suspected, an angioscan should be used rather than a pulmonary scintigraphy because it irradiates less.
  - The paediatric team should be told about the administration of iodinated contrast media when it happens after 12 weeks of amenorrhea (when the foetal thyroid starts picking up iodine) so that they can check the thyroid function in the neonate.

REFERENCES