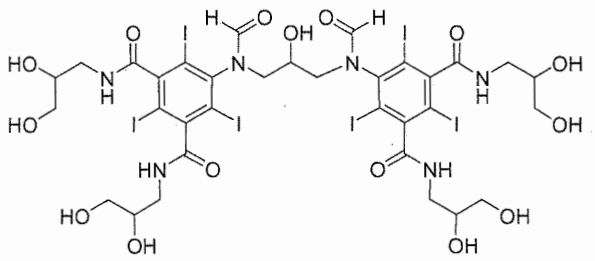
Claims:

1. A composition comprising an iodinated X-ray contrast agent and a pharmaceutically acceptable carrier or excipient, wherein the composition has a concentration of iodine of less than 100 mg I/ml.

2. A composition as claimed in claim 1 wherein the X-ray contrast agent is a non-ionic iodinated monomeric, dimeric, trimeric, tetrameric or pentameric compound.

3. A composition as claimed in claim 1 or 2 wherein the X-ray contrast agent is iodixanol or the compound of formula II



Formula II

4. Composition comprising an iodinated X-ray contrast agent and a pharmaceutically acceptable carrier or excipient, wherein the composition has a concentration of iodine of 10-170 mg I/ml for use in a method of x-ray examination comprising

administering the composition to a body,

applying an X-ray radiation dose to the body provided by a tube voltage energy in the range of 70-140 kVp,

examining the body with a diagnostic device and

compiling data from the examination.

5. A method of X-ray examination comprising

~~administering to a body a composition comprising an X-ray contrast agent wherein the composition has a concentration of iodine of 10-170 mg I/ml~~, applying an X-ray radiation dose ~~to the body~~ provided by a tube voltage energy in the range of 70-140 kVp to a body that had been administered a composition comprising an X-ray contrast agent wherein the composition has a concentration of iodine of 10-170 mg I/ml,

examining the body with a diagnostic device and

compiling data from the examination.

6. A method as claimed in claim 5 wherein the composition has a concentration of iodine of less than 150 mg I/ml, and preferably less than 100 mg I/ml.

7. A method as claimed in any of claims 5 to 6 enhancing the contrast effect of the contrast agent, wherein the contrast agent is iodinated, and wherein said dose of radiation has an average energy spectrum substantially corresponding to the k-edge of iodine.

8. A method as claimed in any of the claims 5 to 7 wherein the X-ray radiation dose is provided by a tube current in the range of 5-1000 mA.

9. A method as claimed in any of claims 5 to 8 wherein the radiation dose is reduced by >30% compared to standard doses.

10. A method as claimed in any of the claims 5-9 further including a step of noise reduction through an advanced image reconstruction method.

11. A method as claimed in claim 10 wherein the noise reduction is selected from the iterative image reconstruction methods ASiR and MBIR.

12. A method as claimed in any of the claims 5 to 11 including Dual Energy CT.

13. A method as claimed in any of the claims 5 to 12 wherein the volume of the composition comprising an iodinated X-ray contrast agent is between 1 and 50 ml.

14. A method as claimed in claim 5 wherein the X-ray contrast agent comprises nanoparticles of a high atomic number.

15. A composition as claimed in claim 4, wherein the composition has a concentration of iodine of less than 150 mg I/ml, and preferably less than 100 mg I/ml.

16. A composition as claimed in claim 4 or claim 15 enhancing the contrast effect of the contrast agent, wherein the contrast agent is iodinated, and wherein said dose of radiation has an average energy spectrum corresponding to the k-edge of iodine.

17. A composition as claimed in any one of claims 4 to 6, wherein the volume of the composition comprising an iodinated X-ray contrast agent is between 1 and 50 ml.