

REVIEWER'S REPORT

Manuscript No.: IJAR-56874

Title: De la pharmacologie à l'imagerie médicale : l'évolution des agents de contraste iodés et leur impact diagnostique.

Recommendation:

Accept as it is

Accept after minor revision.....

Accept after major revision

Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		Good		
Techn. Quality		Good		
Clarity		Good		
Significance		Good		

Reviewer's ID: Dr. Sumathi

Detailed Reviewer's Report

- Iodinated Contrast Agents (ICAs) have evolved from early, highly toxic inorganic compounds into modern, highly safe, nonionic formulations, playing a critical role in enhancing Computed Tomography (CT) and angiography for millions of patients worldwide. They work by increasing the attenuation of X-rays, providing essential structural and vascular information.**
- Iodine-based contrast dye for CT scans is generally safe, with mild, temporary side effects like a warm flush, metallic taste, or mild nausea, usually resolving within 1–2 hours. Rarely, allergic reactions (hives, itching) or kidney function changes can occur. Severe reactions are very rare, affecting roughly 0.6% of patients.**
- Iodine contrast is a dye used in X-rays and CT scans to improve the visibility of internal structures, specifically blood vessels, organs, and tissues. It helps doctors detect tumors, infections, vascular issues, and blood clots by making these areas appear brighter or more defined on imaging tests.**
- Most people feel sick or experience side effects, such as nausea, a warm sensation, or a metallic taste, for only a few minutes to an**

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hour after a CT scan with contrast. Mild symptoms, including headaches or dizziness, generally resolve within 24–48 hours as the body processes the dye.

5. For most people with healthy kidney function, MRI contrast (gadolinium) is cleared from the bloodstream within 24 hours, with about 80–90% eliminated in urine during this time. While the majority is removed quickly, small amounts can linger in the brain, bones, and skin for months or years, though this is not typically harmful.
6. Current developments focus on producing "iodine-free" contrast media to allow for more flexible scanning protocols (high tube voltage) and seeking higher efficacy with lower radiation doses. Research also includes developing target-specific contrast agents to improve molecular imaging diagnostics.
7. Enhanced Tissue Distinction: By improving the difference in X-ray attenuation between lesions and healthy tissue, ICAs significantly increase the detection and characterization of tumours, vascular anomalies, and inflammatory processes.
8. Vascular and Functional Imaging: They allow for precise mapping of vessels (angiography) and, through CT perfusion, provide functional data on organ perfusion, which is crucial for acute stroke or tumour treatment assessments.
9. Improved Safety Profile: Modern nonionic agents have vastly reduced the incidence of severe reactions, making advanced contrast-enhanced CT scans a safe routine procedure, even though precautions are still required in patients with pre-existing renal dysfunction.
10. Key words must be given.
11. Significant points are given.
12. But there is no specifically given result and discussion part.
13. Summary points also be added.
14. References needed more with alphabetical order.
15. After those changes good to publish in your journal.