The use automatic syringes for injecting contrast media in the interventional cardiology

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In the cardiac catheterization laboratory, precis and controlled administration of contrast media plays a crucial role in ensuring high diagnostic image quality while minimizing the risk of adverse effect in patients. Traditionally contrast has been injected manually using a syringe, which may lead to variation in the amount and rate of injection depending on the operator's experience and technique. Modern automatic injectors represent a technological advancement that enables accurate dosing, constant over the quantity of contrast administered.[1] The aim of this study is to compare the consumption of contrast media during cardiac catheterization procedures performed with manual injection versus those performed using an automatic injection. The analysis will be based on data collected from the hospital information system, including procedure type, procedure duration, injection protocol, and patient characteristics. Special attention will be given to the total amount of contrast used per procedure and the potential for dose optimization. It is expected that the results will demonstrate a reduction in overall contrast consumption when using an automatic injector, while maintaining diagnostic image quality. Such an outcome may have significant clinical and economic implications, as reduced contrast use could contribute to lowering the risk of contrast-induced nephropathy, shortening procedure duration, and promoting more rational use of materials in catheterization laboratories. The findings of this study could serve as a basis for standardizing the use of automatic injectors in interventional cardiology, with the potential to improve patient safety and the efficiency of healthcare staff.

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LITERATURE

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