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ECR 2022 / C-16072

Iodinated Contrast Material Impact in Arterial Blood Pressure and Cardiac Frequency

Congress:

ECR 2022

Poster Number:

C-16072

Type:

Scientific Exhibit

Keywords:

Professional issues, CT, Contrast agent-intravenous, Biological effects

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DOI:

10.26044/ecr2022/C-16072

DOI-Link:<https://dx.doi.org/10.26044/ecr2022/C-16072>

Purpose

The purpose of this research was to evaluate the effect of iodinated contrast material (ICM) in arterial blood pressure (ABP) and cardiac frequency (CF) during the several scans of the computerized tomography (CT), and relate these changes to sociodemographic factors and administration conditions. The high osmolality that the CM possess, since it causes a rapid flow to be created in the vascular space, consequently resulting in an increase in the volume load of the heart, inducing peripheral vasodilatation(1). Episodes of arterial hypertension have been described...

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Methods and materials

This was a quantitative and descriptive-correlational research. Data collection was done using a 16 slice CT, ICM, a blood pressure monitor and a floor scale. It was done to all adult patients undergoing a CT scanner with administration of ICM who accepted, ABP and CF was measured before the administration of ICM, after the portal phase and at the end of the examination. Also, a sociodemographic survey with hypertension history was applied.

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Results

From the 150 patients evaluated, 53% were male. Mean age was 64 years and 43% of the patients weighted between 71 and 90 kg. Only 38% of the patients related hypertension history. In average, 86 ml of ICM was administered at an average rate of 3 ml/s. Before administration of ICM, the mean systolic blood pressure (SBP) was 138 mmHg, the mean diastolic blood pressure (DBP) was 72 mmHg, and the CF was 94 bpm. After the administration of ICM mean SBP was 132 mmHg,...

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Conclusion

An increase in BP and CF would be expected immediately after the ICM administration and that would manifest itself by the end of the scan, however, the exact opposite was observed. Both the BP and CF values decreased significantly after MC administration. ICM have vasodilatory properties that can influence the hemodynamic and the electrocardiographic parameters immediately after their administration(5). As for the sociodemographic characteristics, it may be inferred that, only in relation to the SBP, did female individuals show higher values in comparison to male...

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Personal information and conflict of interest

M. Gomes: Nothing to disclose A. F. C. L. Abrantes: Nothing to disclose S. I. Rodrigues: Nothing to disclose B. Vicente: Nothing to disclose K. B. Azevedo: Nothing to disclose R. P. P. Almeida: Nothing to disclose L. P. V. Ribeiro: Nothing to disclose J. Pinheiro: Nothing to disclose

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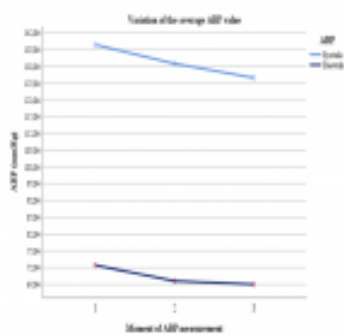


Fig 1: Variation of the Average Systolic and Diastolic BP value according to the...

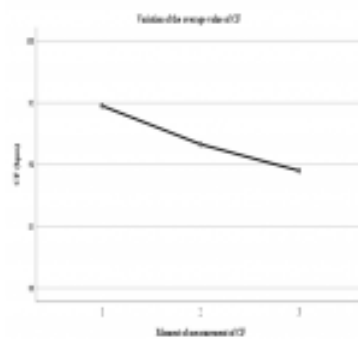


Fig 2: Variation of the average value of CF according to the moment of measurement

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