



CASE REPORT

Severe thrombocytopenia induced by iodinated contrast after coronary angiography: The use of gadolinium contrast and intravascular ultrasound as an alternative to guide percutaneous coronary intervention



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KEYWORDS

Imaging;
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Abstract Acute contrast-induced thrombocytopenia is a rare event with the use of modern low osmolarity iodinated contrast media. The pathophysiological mechanism that causes platelet counts to drop has not been identified, but an immunological mechanism is suspected due to cytotoxicity after previous exposure to contrast. We report the case of a 47-year-old male patient with acute severe thrombocytopenia due to iodinated contrast media exposure. His platelet count after the procedure with the highest amount of contrast was zero, which is the lowest reported platelet count to date. Percutaneous coronary revascularization under both intravascular ultrasound and gadolinium contrast guidance was performed without complications. The most feared complication after the use of gadolinium is nephrogenic systemic fibrosis, especially in patients on hemodialysis.

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PALAVRAS-CHAVE

Imagem;
Ecografia
intracoronária;
Agentes de contraste;

Trombocitopenia severa induzida pelo contraste iodado, após angiografia coronária: a utilização do gadolínio e ECO intravascular como alternativa para guiar a intervenção coronária percutânea

Resumo A trombocitopenia aguda induzida pela utilização endovascular de contraste iodado de baixa osmolaridade é um acontecimento raro com os novos contrastes. O mecanismo

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Intervenção copronária percutânea

fisiopatológico que provoca a diminuição do número de plaquetas ainda não foi esclarecido, mas suspeita-se que possa ser devido a um mecanismo imunológico por toxicidade após a exposição ao contraste. Apresenta-se o caso clínico de um homem de 47 anos com trombocitopenia aguda severa, devido à exposição a contraste iodado. A contagem de plaquetas após o procedimento desceu para zero, o que corresponde ao valor mais baixo alguma vez reportado. A revascularização miocárdica percutânea foi realizada guiada por IVUS e gadolínio, sem complicações. Após a utilização do gadolínio, a complicação mais temível é a fibrose nefrológica aguda, especialmente em doentes em hemodiálise.

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Introduction

Iodinated contrast media, used in coronary angiography, can occasionally produce serious reactions including respiratory failure or anaphylactic shock. Acute contrast-induced thrombocytopenia is an unusual event with the use of modern low osmolarity iodinated contrast media. The mechanism behind contrast-induced thrombocytopenia remains

unclear, but an immunoallergic or idiosyncratic reaction and direct toxicity have been postulated. Gadolinium is a contrast medium used as an alternative in cases of intolerance or contraindication to iodinated contrast. Here, we present a case of a male patient with acute severe thrombocytopenia induced by iodinated contrast media, who underwent percutaneous coronary revascularization under both intravascular ultrasound (IVUS) and gadolinium contrast guidance.

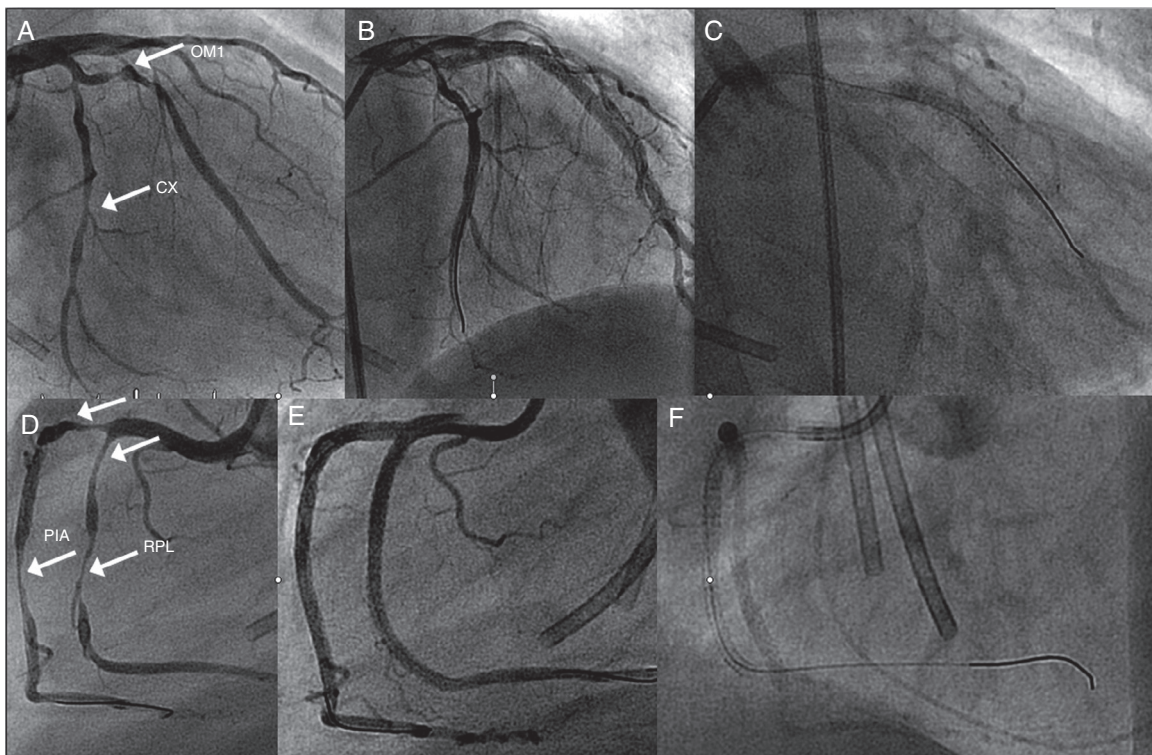


Figure 1 Coronary angiography showing (A) 85% long stenosis of the first obtuse marginal branch and 80% stenosis of the distal circumflex (CX) artery (arrows); (B) these lesions treated with two and one drug-eluting stents (DES), respectively; (C) the CX with gadolinium contrast after six months; (D) early right coronary artery (RCA) bifurcation, 90% stenosis of the right posterolateral branch (RPL) (arrows), 90% at the origin of the posterior interventricular artery (PIA) and 80% distal to the PIA; (E) these lesions treated with two DES in the RPL, one DES at the origin of the PIA and another in the distal segment of the PIA; (F) coronary angiography of the RCA with gadolinium contrast after six months. CX: circumflex artery; OM1: first obtuse marginal branch; PIA: posterior interventricular artery; RPL: right posterolateral branch.

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