Letter by Porto et al Regarding Article, “MRI-Induced Stent Dislodgment Soon After Left Main Coronary Artery Stenting”

To the Editor:

We have read with great interest the case report by Parthasarathy et al describing for the first time a case of MR-induced dislodgement of a coronary stent. Because the implications of attributing such an important complication to the magnetic field are evident (including the risk of negating life-saving imaging to patients), we would like to point out some inconsistencies that we have observed in the article.

First, it seems that a nonsignificant stenosis of the left main stem was initially treated with bypass surgery in this patient, because a minimum lumen diameter of 2.5 mm and a minimum lumen area of 5.1 mm² are now considered grey-zone values and the lesion was not interrogated for ischemia-inducing potential. Subsequently, when the mammary artery graft occluded (possibly due to flow competition), stenting of the same lesion in the body of the left main was undertaken using a 3.5x8 mm Cypher stent (Cordis Corporation/Johnson & Johnson), probably too short for covering the lesion and the left main ostium, as the operators attempted. In our opinion, additionally, the risk of suboptimal stent apposition to the vessel wall, even after postdilatation with 4.0 mm NC balloon, was high for this thick-strut, closed-cell stent. In agreement with this, minimum lumen diameter in Figure 3F and Figure 3G in that article seems to be <4 mm at visual inspection. In Figure 3H, the stent is seen protruding at least some millimeters in the aorta, leaving little room for coverage of the left main body lesion and for anchorage to the vessel wall. In short, unless more detailed intravascular ultrasound images are provided, and the time elapsed from MR scan to repeat angiography is elucidated, we are inclined to attribute this stent migration more to procedural and mechanical factors than to MR-induced dislodgment. Other cases of migration of short Cypher stents implanted in the left main with optimal results at intravascular ultrasound have been reported and attributed to postimplant stent deformation because of hinge stress, stent shortening by postdilatation, and absent stabilization by the minimal neointimal growth typical of sirolimus-eluting stents.

As a second point, we would like to stress that all modern stents, including the 316 L stainless steel Cypher (and more so the second-generation, cobalt–alloy drug-eluting stents), have minimal ferromagnetic characteristics. No meaningful effect of the potentially-at-risk 3 T cardiovascular MR on coronary stents has ever been observed, and the 1.5 T magnetic field in this particular patient was focused on the head (and not on the thorax), with remote chances for interaction.

In conclusion, we strongly think that even patients with recently implanted ostial drug-eluting stents should not be considered at risk for stent migration with MR based on this report.

Disclosures

None.

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References

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Circ Cardiovasc Interv. 2014;7:127
doi: 10.1161/CIRCINTERVENTIONS.113.001001
Circulation: Cardiovascular Interventions is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 1941-7640. Online ISSN: 1941-7632

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