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UNUSUAL MIGRATION OF FULLY DEPLOYED RIGHT CORONARY OSTIAL STENTS : PERCUTANEOUS CORONARY STENT EMBOLIZATION

Cardiology

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ABSTRACT

Stent embolization and dislodgement is one of the rare complications of percutaneous coronary stenting. There has been various case studies of intra- coronary stent entrapment, stripping, dislodgement, migration during coronary interventions leading to devastating consequences and life threatening complications. We report an unusual dislodgement and migration of fully deployed drug eluting right coronary ostial stents distally in a middle aged female with acute coronary syndrome.

KEYWORDS

Right coronary artery ostial, migration stent, embolization stent.

INTRODUCTION :

Stent migration and embolization is one of the rare complication of percutaneous coronary interventions. These can cause potentially life-threatening complications to the patient, including intra-coronary or systemic embolization in the body and create a stressful experience to the operators.[1-5]There are case reports of dislodgment and peripheral embolization of a drug eluting stent from the ostium of a left main coronary artery.[6,7] There are case reports reflecting potential for compression, distortion, migration and dislodgement of large coronary stents in some situations, like CPR.[8]Although it is a very rare event, stent embolization may lead to devastating and life threatening consequences such as acute closure of the affected vessel, coronary thrombosis, and myocardial infarction.[1] There are many case reports of stent embolization. Repeated stent embolization of fully deployed stent at one lesion site is rare in literature.

CASE SUMMARY:

A 45 year old female presented with history of chest pain from 1 day. Preliminary investigations showed new ST depressions in inferior leads and elevated cardiac enzymes (Trop T and CKMB). A coronary angiogram was performed showing hameodynamically significant RCA ostial lesion, with profound Blood pressure dip on hooking RCA ostium and no dye reflux. The RCA was engaged with a 6F JR 3.5 guiding catheter. The lesion was crossed with a 0.014" BMW wire and predilated, Drug eluting stent 3.5 mm x 18 mm was deployed in RCA ostium (Figure 1 and 2) with good results and post dilatation was done with 4mm Non compliant Ballon at higher pressure. Post Dilatation check shot of angiography showed migration of fully deployed stent distally (Figure 3). The ostial RCA lesion was again stented with DES 3.5 X 18 mm and post dilated with 4mm Non compliant Ballon. This subsequent stent again migrated distally in RCA (Figure 4 and 5). Reasons for these migration is still unclear and nightmare to interventional cardiologists. Though proper vessel measurement was taken post vasodilator administration and post dilatation was done at higher pressures, migration in these scenarios can be devastating. There was no coronary occlusion or haemodynamic significance in our patient related to migration. Thus, we did not consider retrieval of migrated stent or surgery.

FIGURE 1: POSITIONING OF THE STENT AT RCA OSTIUM

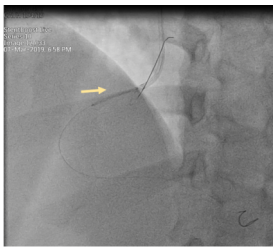


FIGURE 2: DEPLOYEMENT OF THE STENT AT RCA OSTIUM

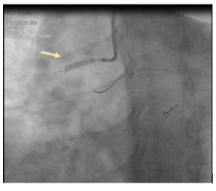


FIGURE 3 : MIGRATION OF THE STENT DISTALLY IN RCA(shown by arrow)

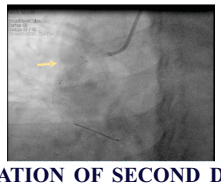


FIGURE 4: MIGRATION OF SECOND DEPOLYED STENT ALSO DISTALLY (shown by arrow)

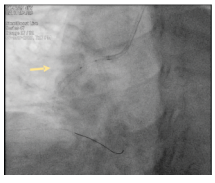
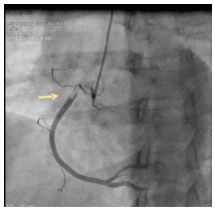


FIGURE 5 : CHECK SHOT SHOWING STENT MIGRATION AWAY FROM OSTIUM.



CONCLUSION:

Coronary stent embolization is rare but potentially hazardous and nightmare complication of PCI. The incidence ranges from 0.32% to 8.3% in the literature.[3] Stent embolizations are encountered especially in angulated, calcified and tortuous lesions. Also, operator expertise is crucial. Although many published case reports are there regarding embolization of stent before deployment[9], the reports of migration of stent after deployment and post dilatation are rare. A stent can be dislodged from the stent-balloon assembly while pulling back before deployment, of the stent balloon into the guide catheter. Interventions

to extremely angulated and heavily calcified coronary lesions are more prone to this complication.[3,5,10]

It also can occur while doing intervention on an inadequately pre-dilated lesion[3] or with interference from previously deployed stents. Coronary stent displacement is also reported with use of intracoronary vasodilator agents during percutaneous coronary intervention.[11]

Although the incidence is decreasing with the innovations of improved devices, techniques, expertise of operator, with the use of pre-mounted stents, we still encounter reports of stent dislodgment, migration and peripheral embolization during the time of percutaneous coronary interventions.[1-3]

Although several techniques for the retrieval of stents have been described in the literature,[12] none have been a trademark. Crushing the dislodged stent with another coronary stent may be considered when all retrieval techniques fail. Although IVUS has shown to be quite useful in optimal results of angioplasty, its role in handling the complications of coronary intervention cannot be ignored. Utility of IVUS in such cases of stent migration has been reported in the literature.[13-14]

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