A word of caution: Diabolic behavior of AndraStents® - Inflation of balloon during implantation leads to "diabolo"-misconfiguration

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Objective: Implantation of transcatheter valves requires almost every time presteneting of the right ventricular outflow tract (RVOT) with large caliber stents. Widely used are cheatham platinum (CP) stents, in some instances ePTFE covered CP stents. Alternatively other large caliber stents like the AndraStent® can be used. We report potentially fatal complications during the implantation of AndraStents® in five cases from two different institutions.

Method: Retrospective analysis of cases.

Results: In five cases a misconfiguration of the AndraStent® occured forming a “diabolo”. During inflation of the balloon the stent expanded at both ends but the middle part remained unexpanded. In several cases higher inflation pressures lead to a burst of the balloon. Different measures where taken to rescue the stent. In one case the stent was expanded with a high-pressure balloon, in another the stent was retrieved by surgery and in one case during attempted interventional retrieval of the embolized stent eventually a perforation with a fatal bleeding occurred.

Conclusion: Misconfiguration of AndraStents® during implantation can lead to potentially fatal complications. Several rescue strategies including stent placement or re-dilatation with high pressure balloons or surgery should be available.