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TRANSCATHETER "THROMBIN-BLOOD PATCH" INJECTION: A NOVEL AND EFFECTIVE APPROACH TO TREAT CATHETER INDUCED ARTERIAL PERFORMATION

i2 Poster Contributions
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Background Vascular access complications are rare but potentially life threatening conditions related to percutaneous procedures (PP). Surgical repair is associated with significant morbi-mortality due to cardiovascular comorbidities. We aimed to describe the safety and feasibility of transcatheter "thrombin-blood patch" (TBP) injection to treat catheter related arterial perforation.

Methods Oct 2007 to Jul 2010 we studied 23 pts who presented active access arterial bleeding after PP and underwent angiographic guided TBP injection across the entry site of the arterial perforation as a primary approach.

Results The mean age was 67 years, predominantly female (78.3%) with high rates of comorbidities including diabetes (30.4%), prior coronary revascularization (50.0%), chronic renal failure (43.5%) and heart failure (56.5%). Thirteen pts (56.5%) developed severe hypotension after the index procedure. Details regarding the procedure/complication/outcomes are described in the Table. TBP was injected in all pts. One case required an additional covered stent to obtain hemostasis. Angiographic success was achieved in the 23 pts; however one case required a second intervention due to recurrent bleeding, which was treated using a covered stent. All pts were discharged alive and no major events were noted.

Conclusion Transcatheter TBP injection is a novel technique that might have a particular role to treat pts with significant comorbidities who develop severe access bleeding after PP.

Table 1. Procedural characteristics and outcomes	
Primary procedure, n (%)	(n=23)
Percutaneous coronary intervention	9 (39.1%)
Percutaneous peripheral intervention	5 (21.7%)
Diagnostic angiography	3 (13.0%)
Septal defect closure	2 (8.7%)
Aortic balloon valvuloplasty	2 (8.7%)
Mitral balloon valvuloplasty	2 (8.7%)
Sheath mean size, French ± SD	7.3 ± 2.4
Site of perforation, n (%)	
Common femoral artery	9 (39.1%)
Superficial femoral artery	4 (17.4%)
Profunda femoral artery	3 (13.0%)
Inferior epigastric artery	3 (13.0%)
Iliac branches	3 (15.8%)
Mean hypotension duration, min ± SD	56.5 ± 63.7
Laboratory (mean ± SD)	
Baseline hematocrit, % ± SD	34.8 ± 7.0
Nadir hematocrit, % ± SD	24.0 ± 5.8
Mean hematocrit drop, % ± SD	10.8 ± 4.3
Baseline creatinine, mg/dL ± SD	1.4 ± 1.6
Peak of creatinine, mg/dL ± SD	1.6 ± 1.8
Outcomes (mean ± SD)	
Transfused red blood cell, units ± SD	3.2 ± 2.4
Intensive Care Unit stay, hours ± SD	46.1 ± 42.0
Length of hospitalization, days ± SD	7 ± 4