PUMP IT UP! USE OF REBOA IN BLUNT ABDOMINAL AORTIC INJURY (BAAI): A CASE REPORT

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Purpose

To evaluate the feasibility of using Resuscitative Endovascular Balloon Occlusion of the Aorta (REBOA) in BAAI.

Materials and methods

A 47-year-old woman, victim of a high impact collision (bus-car crash with a calculated car acceleration peak of 23 g) presented with shock, negative E-FAST, pelvic instability and poor response to resuscitative maneuvers (crystalloids and pelvic binder). Following Helicopter Emergency Medical Service transfer to our Trauma Center, REBOA was promptly positioned in zone 3. CT-scan showed a grade 4 BAAI just below the renal arteries. In agreement with vascular surgeons REBOA was repositioned in zone 2 (between the celiac tripod and the superior mesenteric artery), allowing the placement of an endovascular prosthesis.

Results

Patient's Injury Severity Score was 75. Other main injuries were subarachnoid hemorrhage, massive hemothorax, pelvic and vertebral fractures. Total inflation time of REBOA was 30 minutes in zone 3, 45 min, intermittent, in zone 2. Early Continuous renal replacement therapy was started to prevent crush syndrome consequences. The patient suffered from transient intestinal impairment and acute limb compartment syndrome as major complications, related to ischemia-reperfusion injury.

Conclusions

Indication for the use of REBOA in BAAI is still lacking, due to potential risk of extension of the aortic lesion. Nevertheless, the technique could represent a bridge to get to definitive treatment in life-threatening situations. We hypothesize that when trauma dynamic poses a strong suspicion of BAAI it could be useful to place REBOA with fluoroscopic or CT-scan guidance in order to exclude the lesion while minimizing splanchnic ischaemic injury. Despite the contraindication to place REBOA in zone 2, this approach seems to be feasible and relatively safe.

Trauma scores

RTS = 5,148

SBP 60 mmHg
RR 30/min
GCS 11 (E3 V2 M6)

ISS = 75

hAIS 5
tAIS 5
aAIS 5
eAIS 4

References

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