

Resuscitative Endovascular Balloon Occlusion of the Aorta Use outside Trauma Centers

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Introduction

Hemorrhagic shock remains the leading cause of death in trauma cases and uncontrolled bleeding remains the number one cause of preventable death. The resuscitative endovascular balloon occlusion of the aorta (REBOA) is an advancement in trauma care that provides aortic occlusion to control bleeding to noncompressible hemorrhage in areas such as the abdomen and pelvis.



Figure 1: REBOA placement by military surgical team in austere environment

Key Points:

- REBOA is a minimally invasive procedure in which a balloon is inserted through the femoral artery that is then inflated to occlude aortic blood flow distal to the balloon.
- Aortic occlusion allows for increased central perfusion to vital organs and increases blood pressure while controlling hemorrhage to the abdomen and pelvis.
- This occlusion would replace the need for an emergency thoracotomy where the aorta is cross clamped to occlude blood flow.
- REBOA training is necessary for rural trauma teams to implement successful use in the rural setting.

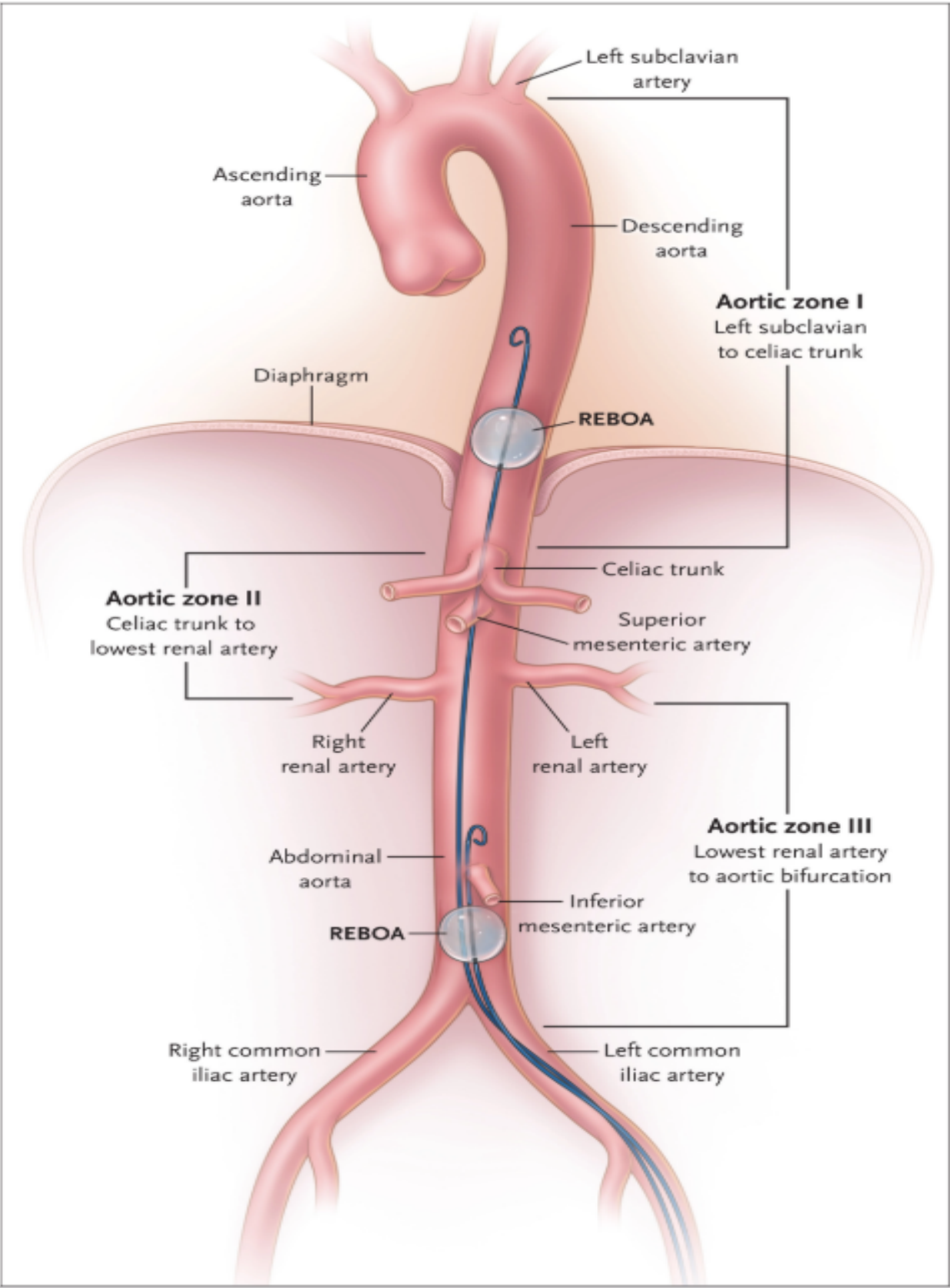


Figure 2: Aorta diagram identifying zone placement with REBOA balloons

Discussion

While the use of REBOA to control noncompressible hemorrhage has shown promising results in an austere military environment, REBOA use has not expanded in the US outside of Trauma Centers with trained surgeons and immediate surgical capability. Trauma cases with noncompressible hemorrhage are not unique to areas with trauma centers, therefore, it is important to determine the feasibility of rural hospital training and use of REBOA.