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Pediatric Limb Ischemia: Our Experience from a Tertiary Hospital in Oman

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INTRODUCTION

Acute limb ischemia (ALI) is a devastating consequence of a sudden loss of blood flow to an extremity that can progress to irreversible ischemia if not promptly treated (1). This may unfortunately result in life-altering consequences including limb loss and limb length discrepancy (2), emotional trauma and or financial stress. Due to the rarity of this condition, and the lack of high-quality evidence, treatment strategies have largely been anecdotal or extrapolated from treatment of the adult patient. The authors provide a glimpse of their experience

AIM

We share our experience and an algorithm that we follow (Figure 1) for management of PALI which requires a multi-disciplinary team approach.



Figure 2: Iatrogenic arterial injury secondary to left upper limb arterial line managed with best medical therapy

METHODS

The cases are divided into PALI secondary to three broad categories: iatrogenic arterial injury managed with best medical management [Figure 2]; managed surgically [Figure 3]; iatrogenic deep vein injury/thrombosis and trauma [Figure 5].



Figure 3: Broken central venous line causing right limb edema, extracted surgically.



Figure 4: Traumatic injury to SFA, repair and on-table angiography.

RESULTS

Iatrogenic arterial injury

The most common etiology for PALI is iatrogenic arterial injury during cannulation for diagnostic or therapeutic purposes (3). Principals of management include removal of the catheter, physical measures such as change of limb position and warming, use of anti-platelets and or anti-coagulation.

Trauma

The second most common cause is traumatic injury (4). Penetrating injury is the most common underlying mechanism. Many patients have concomitant musculoskeletal trauma that necessitates surgical exploration and may lead to an increased rate of surgical repair of vascular injuries (2). Surgical revascularization can be successfully performed in this subset of patients with minimal functional limb deficits.

Venous

Like iatrogenic arterial injury, iatrogenic venous injury commonly occurs after venous cannulation resulting in venous thrombosis and potential venous ischemic. This entity is best managed with removal of the catheter and prompt initiation of anti-coagulation/antiplatelet therapy.

CONCLUSIONS

In this article, we described our experience in management of PALI and share a management algorithm that we follow, to standardize the evaluation and management of these cases. We emphasize the role of a MDT approach and individualized patient care in these critical situations. This is to improve overall functional outcomes and reduce morbidity of acute limb ischemia in pediatric patients.

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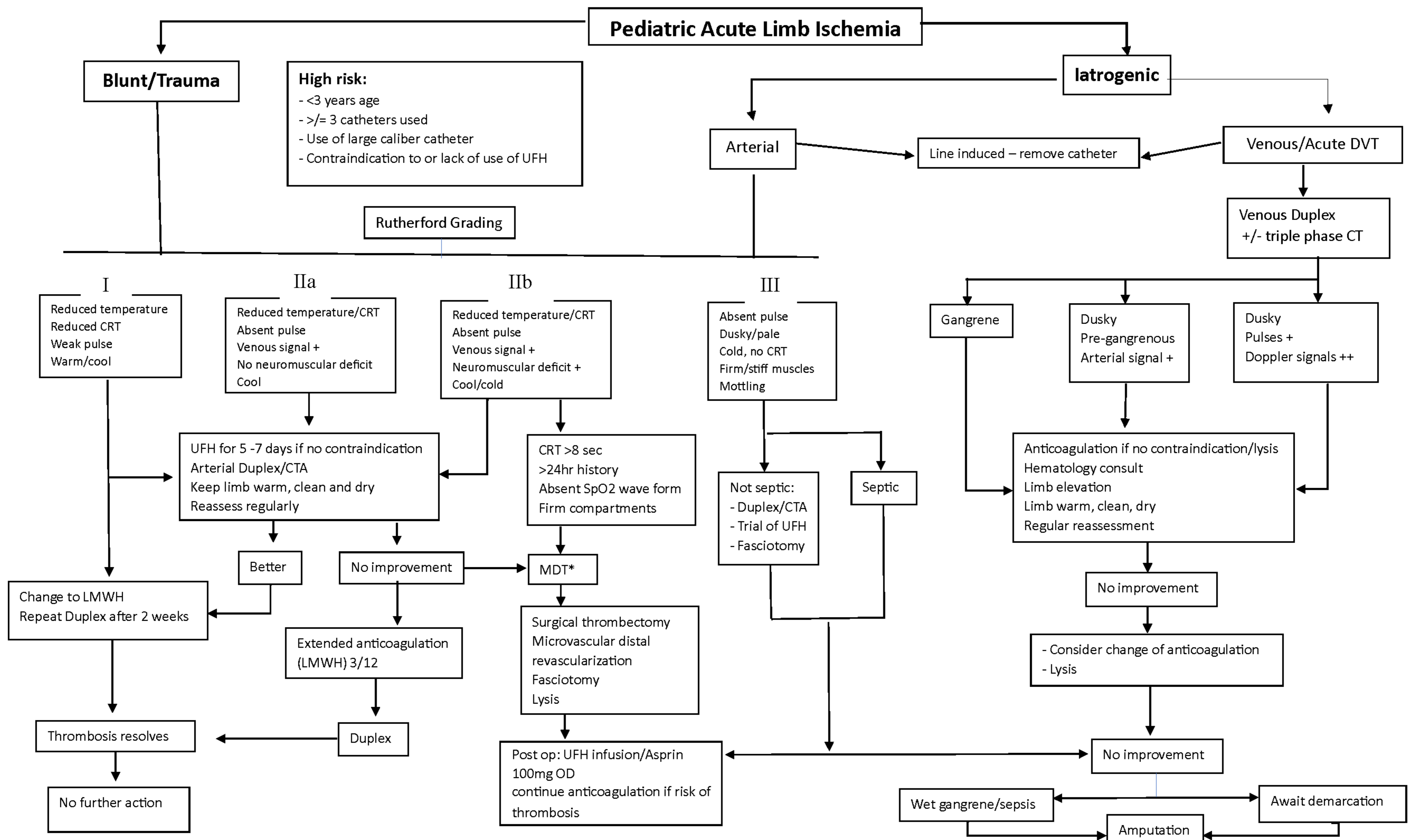


Figure 1 – Algorithm that we follow for PALI *MDT: Involving vascular surgeons, hematologists, interventional radiologists, and pediatric intensivists