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Outcomes and Indications for Thoracofemoral Bypass in the Endovascular Age: A case series and Literature Review

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Introduction: Endovascular revascularization is commonplace in vascular surgery; however, thoracofemoral bypass (TFB) is optimal in particular patients. Little research focuses on TFB outcomes. This case series and literature review investigated indications, efficacy, and safety of TFB.

Methods: Cases at Thomas Jefferson University Hospital (TJUH) included one male and four females (average age 57.2) from 2015-2019. Literature review yielded 124 cases from other institutions. PubMed and Scopus search using the term "thoraco femoral bypass" yielded 39 articles. Articles published before 2000 and case studies published in any year were excluded. Seven articles were selected. Primary outcomes included 30-day mortality and graft patency; secondary outcomes included complications and indications. Data was tabulated in tables and percentages were calculated.

Results: One hundred and twenty-nine cases of TFB were identified. Some indications included revascularization of failed aortobifemoral bypass (31.8% of patients) and circumferential aortic calcification with or without concomitant infrarenal or mesenteric calcification (20.1%). Thirty-day mortality for all cases was 4.7%. Thirty-day mortality for TJUH patients was 0%. Graft patency for TJUH patients was 100% at six months. At publication, three of five patients had been revascularized for over one year and had patent grafts at one year. Some complications

included pulmonary (12.5% of patients), major vascular reintervention (7.8% of patients) and incision site infection (4.1% of patients).

Discussion: In recent years, few institutions have reported TFB outcomes. High graft patency and low 30-day mortality at TJUH and other institutions emphasize the safety and efficacy of TFB.