

of onset, location or migration of pain and severity of systemic response (Lee et al. 2010). The use of ultrasonography and CT to aid diagnosis has been advocated, which may show bowel wall thickening, peri-colonic fat infiltration, extra-luminal air or abscess. Compared to duodenal, small bowel diverticula are almost 4 times more likely to perforate (Nakatani et al. 2016). **Take home message:** Although less common than appendicitis, diverticulitis of the ascending colon or terminal ileum should be considered in patients presenting with right iliac fossa pain. Limited small bowel resection and anastomosis or diverticulectomy is a safe surgical method to use in some cases of ileal diverticulitis. Many cases of uncomplicated small bowel diverticulitis may be treated conservatively without requiring operative intervention. Thus accurate and early diagnosis, aided by radiological imaging can ensure appropriate clinical management and avoid unnecessary surgery and its associated risks for patients presenting with acute, uncomplicated small bowel diverticulitis.

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Graft aneurysm as long-term complication of a polyester prosthesis and its adequate management - short review based on a systematic review of literature and a representative case report

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Introduction: A material-associated true aneurysm after previous use of a vascular prosthesis for arterial reconstruction mostly in peripheral arterial occlusion disease (PAOD) is considered a rare but serious complication.

Case description: A 49 year old male patient underwent several sequential steps of arterial recanalization/reconstruction because of PAOD, stage IIb (walking distance, <100m) according to local findings with endovascular measures and vascularsurgical bypass implantation by means of a femoropopliteal P1-prosthetic bypass at the right and left leg (the right distal prosthetic segment was extended with a venous bypass to the P3-segment because of a distal suture aneurysm and arterial thrombosis of the right calf. After 10 years, a true prosthetic aneurysm was diagnosed at the right thigh using Duplex-ultrasonography and complementary MR-angiography. It was successfully treated with a femoro(prosthetic)-infragenaal 6-mm-Gore®-Propaten® bypass (W.L. Gore, Putzbrunn, Germany) down to the P3-segment of the right popliteal artery. Nineteen articles were found in the literature search, which had been published since 1995. Most frequently, pseudoaneurysms of knitted polyester prostheses at the femoro-popliteal segment occurred after approximately 12.91 years in average. In one third of cases, 2 or more aneurysms of dacron prostheses were described. Histological and electromicroscopic investigations revealed mainly breakings of filaments and foreign body reactions. In more than half of the patients, the aneurysm was resected and for reconstruction, an interponate was implanted. Complete removal of the prosthesis and endovascular therapy were only 2nd choice.

Results and Conclusions: Development of true prosthetic aneurysms has not been satisfyingly clarified yet. It belongs to the late complication profile - even it occurs rarely - and should be controlled after a post-operative interval of one decade if the arterial recanalization/reconstruction was performed using prosthetic material after previously - in the sequential approach - endovascular intervention and venous bypass could not be used.

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Minimally invasive direct coronary artery bypass and TAVI: Timing and considerations in octogenarians: A case report

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Keywords: Minimally invasive direct coronary artery bypass; TAVI; Coronary revascularization; Pacemaker; Case report

Introduction: Coronary artery disease is frequently associated with aortic stenosis. Using minimally invasive direct coronary artery bypass (MIDCAB), we conducted a single bypass of the LAD using the LIMA on an 87-year-old patient with TAVI-prosthesis and pacemaker. This case report describes the procedure for our rather special patient, from intake to discharge.

Case description: A 87-year-old male was admitted to our hospital due to NONSTEMI. Surgical history included TAVI Corevalve® endoprosthesis (81y.o.) and BIOTRONIK pacemaker for left bundle branch block. We opted for minimally invasive direct coronary artery bypass (MIDCAB) using the Da Vinci® Robot System. There were no adverse events in the post-operative period. Patient was discharged on the 8th postoperative day. Several questions arose while treating our rather complex patient: what is the optimal timing for revascularization after TAVI and what method of revascularization should be used?

Results and Conclusions: We consider TAVI followed by MIDCAB as a feasible approach for these complex patients. It is potentially beneficial regarding blood loss and hospital stay. The staged approach avoids many risks described in literature. Research is needed to support this intuitive assumption; the effect of TAVI on coronary hemodynamics on the long term as well as comparing combined and staged TAVI-MIDCAB could be interesting subjects for further investigation.

Take home message: A staged minimal invasive procedure with TAVI and followed by MIDCAB might be beneficial in octogenarians.

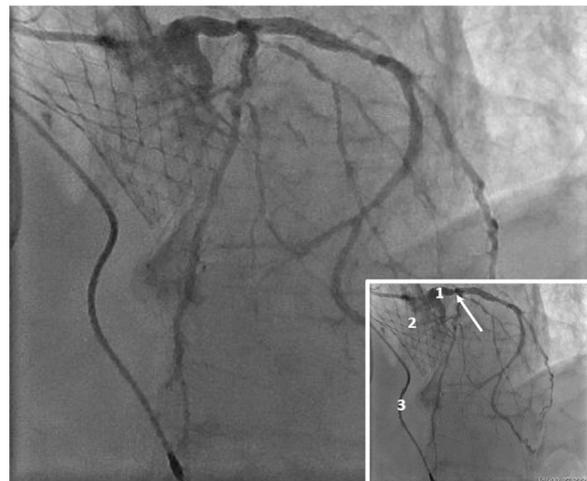


Figure 1: Coronary angiography of the left coronary artery. 1: Left main stem. 2: TAVI Corevalve. 3: Pacemaker wire. Arrow indicates targeted stenosis.



Figure 2: Operative setting of the da Vinci Surgical system used for harvesting the left internal mammaria artery (LIMA) in skeletonized fashion.

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Pathologic femur fractures following limb-salvage surgery and radiotherapy for soft tissue sarcomas: They don't heal!

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Introduction: Combined limb-sparing surgery and radiation therapy are considered the standard of care for soft tissue sarcomas (STS) of the extremities. The correlation between radiation therapy and the risk of post radiation fracture is known but underestimated and can end up in serious long-term complications.

Case description: We reviewed the records of 3 patients with pathological femur fracture years after wide local excision of a STS of the proximal lower extremity with postoperative radiation therapy. All patients received more than 50 Gray to the entire femur circumference. No one received perioperative chemotherapy. During surgery, all patients had bone exposure, whereas only one patient had the periosteum stripped.

Results and Conclusions: Two patients were female and one male. The median time from surgery/radiation to fracture was 116 months (range, 84 to 156 months). The median age at the time of diagnosis was 66 years (range, 54 to 79 years). All fractures occurred within the radiation treatment field. Two fractures occurred after minimal or no trauma, one fracture occurred after a mountain bike fall. All three fractures 3/3 (100%) developed a non-union. One patient died due to uncontrolled pulmonary metastasis and local recurrent disease. In the second case we had to perform an exarticulation at hip level due to an uncontrolled infected non-union with soft tissue defect despite several surgical revisions. The third patient is still under treatment of his non-union.

Take home message: Local control rates after combined therapy for the treatment of soft-tissue sarcomas are high. However, pathologic fractures after radiation therapy pose an extreme challenge in their treatment and may be associated with long-term complications that can cause physical disability and impairment of the quality of life.

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Non-union of paediatric carpal fractures: A case report and current concepts review

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Introduction: Paediatric carpal bone fractures are rare, and usually secondary to significant direct trauma. Diagnosis can commonly be missed or the significance of the injury not completely recognised on presentation. During development, the ossification centre of each individual carpal bone is surrounded by a spherical growth plate. This acts as a protective barrier against injury. As the child reaches adolescence the critical bone-to-cartilage ratio is reached, and so, carpal bone fractures start to become more common.

Case description: A 12 year-old boy presented to the emergency department with right wrist pain following a fall from his bicycle while travelling at speed. The impact was sustained directly on to an outstretched hand, resulting in a closed injury. Radiographs demonstrated a dorsally displaced Salter-Harris III fracture of the distal radius with associated displaced fractures of the ulna styloid and lunate. The patient reported reduced sensation and tingling in the thumb, index and radial aspect of middle finger consistent with the distribution of the median nerve. Motor supply was intact. The fracture was initially mobilised with a dorsal plaster slab. The patient was taken to theatre the following morning for manipulation under anaesthetic and plaster immobilisation. Satisfactory reduction of the distal radius fracture was achieved with the lunate and ulnar styloid fractures not addressed. Median nerve symptoms improved somewhat following the procedure but did not completely resolve. At 10 days post-operatively check radiographs demonstrated the distal radius fracture reduction to be maintained and the plaster cast was changed to a lightweight below elbow full cast which remained in situ for 6 weeks. Radiographs at 6 weeks demonstrated union of the distal radius fracture but no signs of healing of the ulnar styloid or lunate fractures. Median nerve sensory symptoms had improved. The cast was removed and range of motion exercises begun. An MRI was performed showing a non-united fracture of the lunate without signs of avascular necrosis. The patient is now 6 months post-op and currently asymptomatic with a full painless range of motion. He has returned to his pre-morbid level of function being actively involved in physical education at school and reports no pain in the wrist or functional deficit. Radiographs continue to demonstrate a lunate non-union.

Results and Conclusions: Paediatric lunate fractures are very rare, and as a result there is very little published literature available. Previous case reports have demonstrated good long-term results from both conservative and operative management of paediatric carpal fractures. A case report by Bhatnagar et al. highlighted a good clinical outcome with non-operative treatment of an active 11-year old boy with multiple carpal fractures. They demonstrated asymptomatic full range of motion of the wrist at 3 years follow-up, despite CT at this stage showing non-union of a hamate fracture. Similarly, there have been good clinical outcomes with operative management. Kamanó et al. showed effective results in a child with multiple carpal fractures treated with wire fixation followed to twenty-nine months. In 2009, Foley et al. also demonstrated similar outcomes in a 10-year old boy treated with Kirschner wires. In this patient, bone union was achieved and there was pain free full range of movement of the wrist at 1 year follow-up.

In our case, we pursued a conservative approach to management based solely on the patient's symptoms. The questions that however remain are:

- whether this lunate fracture may progress to a delayed union and should we thus follow up the patient until this occurs?
- if union does not occur will this result in long term detriment to wrist function or chronic pain?
- should a delayed ORIF with bone grafting be performed simply to achieve union or should it be performed only in the presence of symptoms?