

Undiagnosed platelet dysfunction in polymorbid patient resulting in hip prosthetic joint infection – case report

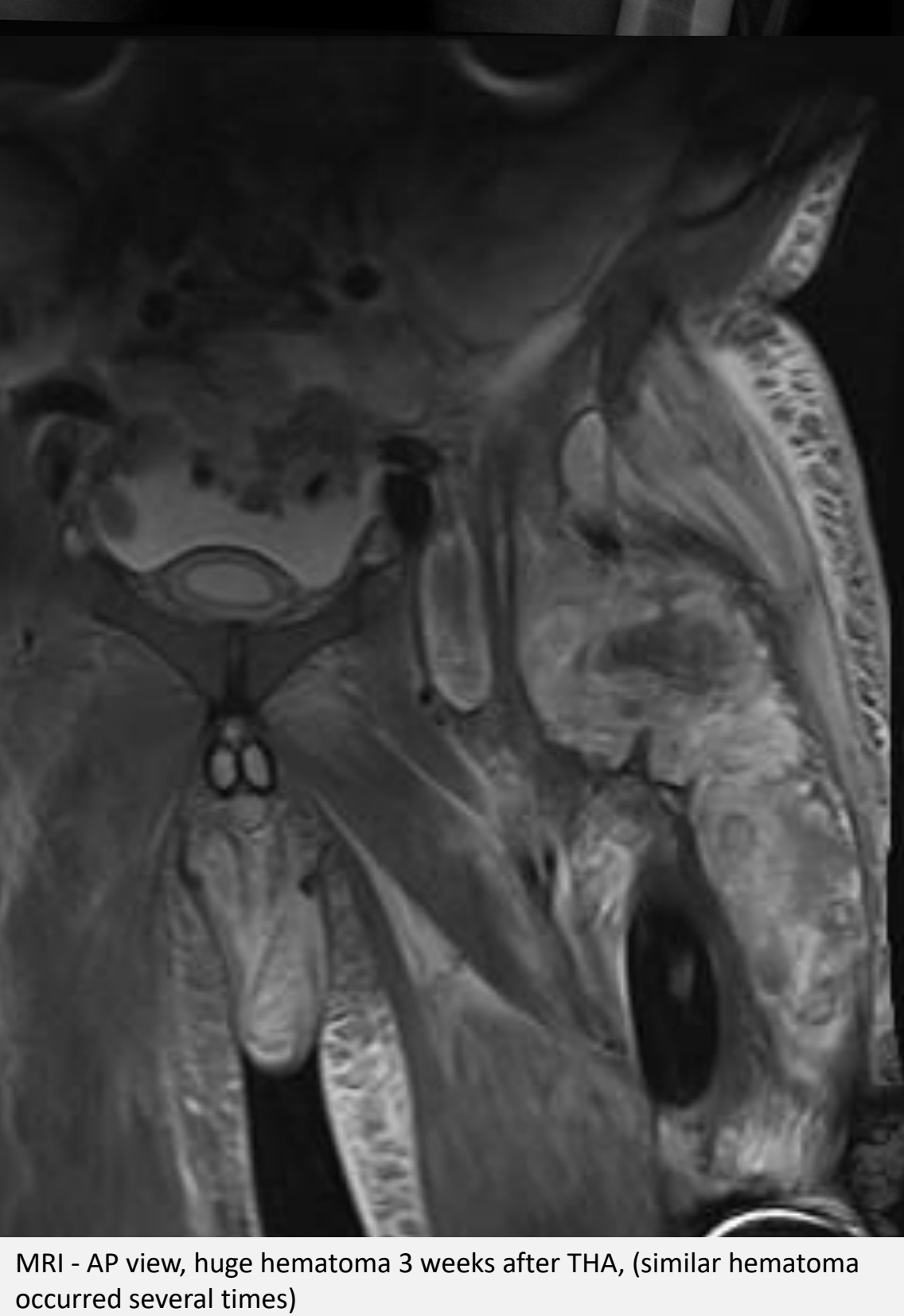
Zmago Krajnc, MD, PhD, Igor Novak, MD, Nina Gorišek Miksić, MD, PhD
UKC Maribor



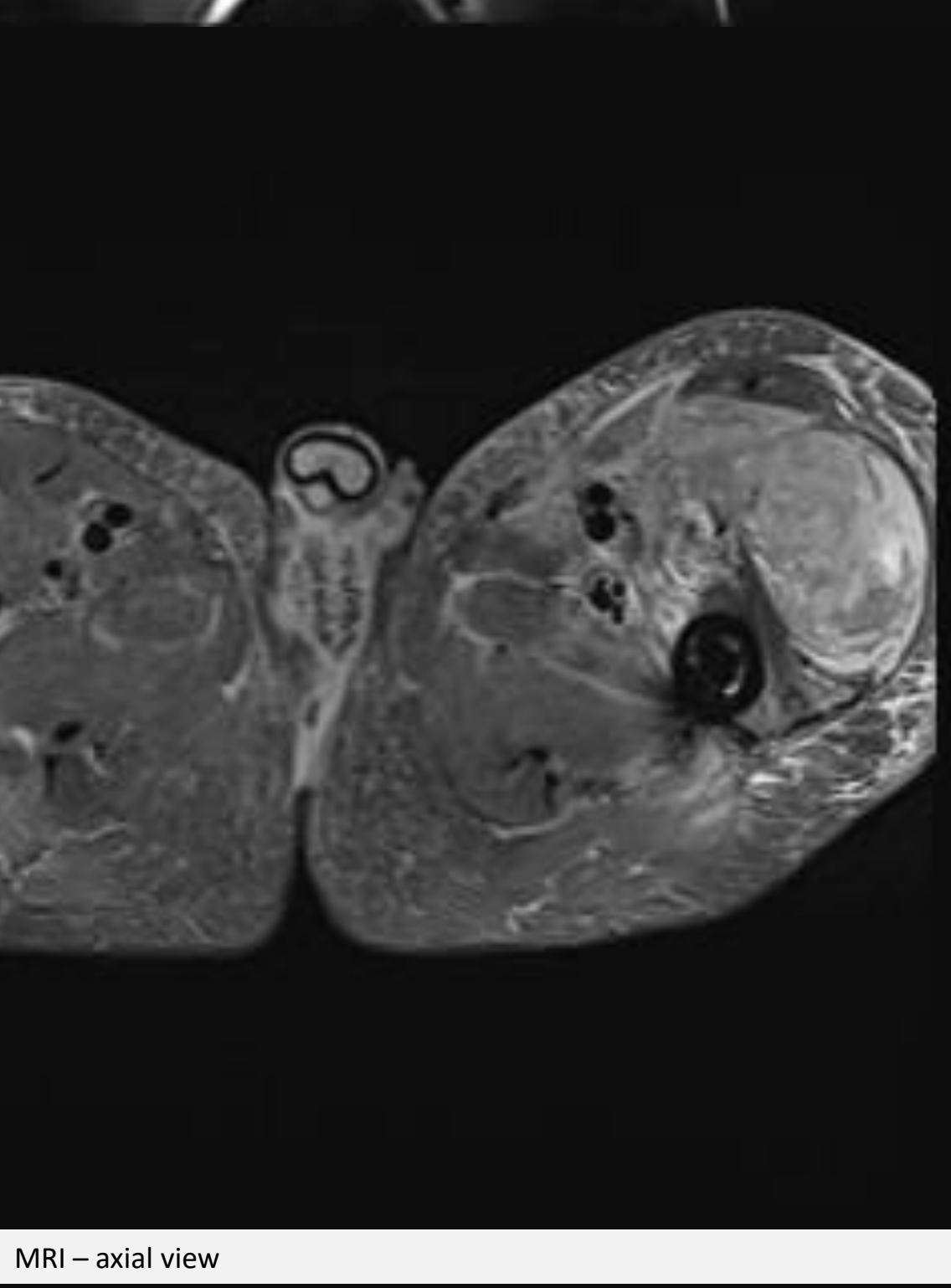
X-ray before operation, avascular necrosis of femoral head



X-ray after operation, total hip endoprosthesis



MRI - AP view, huge hematoma 3 weeks after THA, (similar hematoma occurred several times)



MRI – axial view

INTRODUCTION

We present a case of high-risk patient (with undiagnosed afunctional platelets due to long term hemodialysis) developing recurrent hematomas after THA.

MATERIALS AND METHODS

52-year-old hemodialysis patient, colonized with multidrug resistant bacteria (MRSA, CRE-CPE, VRE), was admitted to our department due to huge hematoma of the left thigh with impending compartment syndrome 3 weeks after elective left total hip arthroplasty (THA). Urgent surgical evacuation of hematoma was performed, anticoagulation and antiaggregating therapy were discontinued, analysis of patient's coagulation status was performed repetitively with prolonged closure time being observed. Patient received thrombocyte plasma every 3-4 days and tranexamic acid, however, several recurrences of the huge hematomas (up to 2 l of blood) in the next 4 months repeatedly occurred. Patient was treated with surgical drainages (7-times) and with negative pressure wound therapy (NPWT). Additional diagnostics were performed, other causes of hemorrhage were ruled out and afunctional thrombocytes were diagnosed later related to long term hemodialysis. CT angiography was performed 3 times and embolization of newly formed small vessels was performed. The treatment with NPWT was discontinued, new hematomas finally stopped appearing.

RESULTS

During multiple procedures infection of hematoma, caused by methicillin resistant *Staphylococcus aureus* (MRSA) was diagnosed, leading to MRSA-PJI. Treatment with vancomycin was started, although due to high risk for hemorrhage no additional surgical procedure was possible. Patients received 6 weeks of vancomycin, followed by long term antimicrobial suppression with doxycycline. 4 months after the discharge the patient was without signs of systemic infection, with satisfactory functional result (walks without crutches, limping is barely noticeable despite significant atrophy and scarring of the weakened gluteal muscles) and small fistula in the lower part of the scar.

CONCLUSIONS

Although it was shown that in high risk patient NPWT decreases the rates of wound complication in revision arthroplasties, it probably does not decrease the risk of SSI. Treatment with NPWT also stimulates angiogenesis, which was the most likely reason for the recurrent bleeding in our patient with prior undiagnosed afunctional platelets. Long term suppressive antibiotic treatment was the only possibility for a fragile patient.

LITERATURE

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2. Kim JH, Lee DH. Are high-risk patient and revision arthroplasty effective indications for closed-incisional negative-pressure wound therapy after total hip or knee arthroplasty? A systematic review and meta-analysis. *Int Wound J* 2020; 17(5): 1310-1322. doi: 10.1111/iwj.13393.
3. Ge D. The Safety of Negative-Pressure Wound Therapy on Surgical Wounds: An Updated Meta-analysis of 17 Randomized Controlled Trials. *Adv Skin Wound Care* 2018; 31(9):421-428. doi: 10.1097/01.ASW.0000542530.71686.5c.



Large hematoma in the wound after numerous repeated revisions



NPWT therapy after evacuation of hematoma



CT angiography and embolization of newly formed small vessels



Small chronic fistula in the middle part of the scar