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Morel-Lavallée in Collegiate Wrestler

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BACKGROUND

Patient is a 19-year-old male collegiate wrestler who reported to the certified athletic trainer after practice when he noticed a large pocket of swelling on the anterior superior aspect of his right knee. The patient reported no pain and the certified athletic trainer noted no range-of-motion restrictions. The certified athletic trainer conducted an evaluation and treatments were initiated.

DIFFERENTIAL DIAGNOSIS

Ruptured prepatellar bursa, suprapatellar bursa ganglion cyst, fat necrosis, sarcoma, hemangioma, subcutaneous hematoma, aneurysmal bone cyst, effusion, and soft tissue injuries.

TREATMENT

Initial steps to treat injury included ice, elevation, and compression, but were ineffective. The certified athletic trainer referred the patient to the team physician. The team physician diagnosed the patient with Morel-Lavallée Lesions. The patient was directed to continue with treatments, exercises, a compression wrap, apply a horseshoe pad along the suprapatellar region, and to wear an immobilizer brace locked at zero while sleeping. The patient reports for treatments and exercises the following day. Nineteen days post injury; the injury is still causing pain and limiting the patients' activities. The patient was referred to the team physician and was given a Medrol Dose Pak and follow-up in one week. At follow-up, the patient reported an improvement in pain, but swelling was still present. The patient was instructed to continue to compress and protect the knee while wrestling. The patient completed a rehabilitation session on the same day and two days later. One-month post injury, the patient sustained a grade two medial collateral ligament (MCL) sprain in the same leg while wrestling in a match. A rehabilitation protocol was designed and implemented to treat the sprain. Seven weeks post Morel-Lavallée Lesion (MLL) injury, the patients knee was aspirated where 10cc of bloody fluid were removed. In addition, the patient received an injection of 3cc Doxycycline. He was instructed to follow up in one week and was immobilized. At F/U, the patient's swelling worsened, a second procedure was conducted where 30cc of bloody fluid were aspirated from his right knee and 2cc of Marcaine and 2cc Celestone were injected. The patient was again instructed to F/U in one week, and immobilized with no activity. At F/U, the patient was instructed to gradually begin normal activities without immobilizer, but had to wear the immobilizer around high traffic areas. He was to begin light rehabilitation exercises two days after his follow up, but was to refrain from athletic activities until the next F/U and cleared to return to participation from the team physician.

UNIQUENESS

Morel-Lavallée Lesions are a very uncommon pathology. In my case, this pathology differentiates from other pathologies due to its unique signs and symptoms. The unusual collection of fluid outside of the joint and the discoloration to the anterior surface of the

patients thigh, were very telling signs this was not a bursitis.

CONCLUSION

Morel-Lavallée Lesions are a result of post-traumatic shearing of the subcutaneous tissue away from the underlying fascia (Kumar, 2014). The rupture of small perforating vessels in the area creates a cavity, which can fill with blood, lymph, and necrotic fat (Kumar, 2014). Morel-Lavallée Lesions are a very unique pathology and in many cases goes misdiagnosed. In my case initial diagnoses and treatments were performed without improvements. It is important for health care providers, especially athletic trainers, to recognize and understand MLL before the injury becomes permanently debilitating.

CLINICAL APPLICATIONS

In athletics, post-traumatic pain surrounding the knee is a common clinical presentation with several different diagnoses. Morel-Lavallée Lesion (MLL) is a rare cause of pain at the knee. Demonstrating the ability to recognize and treat Morel- Lavallée Lesions in a timely manner aid in the reduction rate of permanent damage.

REFERENCE

1. Kumar, S., & Kumar, S. (2014). Morel-Lavallée Lesion in Distal Thigh: A care report. Journal of Clinical Orthopaedics and Trauma, 5(3), 161-166. http://dx.doi.org/10.1016/j.jcot.2014.07.002

KEY WORDS: *effusion, medial collateral, ligament, sprain, Morel-Lavallée, lesion, bursitis, knee, swelling, prepatellar, subcutaneous*