

Orthopedic challenges: Insights into diagnosis and management.

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Introduction

This collection of case reports delves into unique and complex scenarios within orthopedic surgery, offering valuable lessons in diagnosis, treatment, and long-term patient care. These studies challenge conventional approaches and highlight the nuances of managing rare conditions and complicated presentations.

A case details a successful total knee arthroplasty (TKA) performed on a patient with Charcot arthropathy of the knee [1].

Standard TKA is usually contraindicated due to high complication rates. The key takeaway is that with careful patient selection, meticulous surgical technique, and robust postoperative care, TKA can be a viable option to restore function and alleviate pain even in complex Charcot knees.

Another report discusses an incredibly rare instance of isolated traumatic anterior atlanto-axial dislocation without associated fractures or neurological deficits [2].

This case emphasizes successful non-surgical management. It highlights that comprehensive imaging and precise diagnosis are paramount, as stable cases can potentially avoid complex surgical interventions, challenging conventional approaches to high cervical spine trauma.

A critical issue brought to light is developmental dysplasia of the hip (DDH) presenting late in a 7-year-old, long after typical screening periods [3].

This case underscores how a missed diagnosis in infancy can lead to severe hip deformity. The enduring importance of vigilance for hip pathology throughout childhood, even with negative early screening, and the significant impact of early detection on prognosis is clear.

We also learn about an intraosseous pneumatocyst, a benign, air-filled lesion within bone, and how easily it can be mistaken for something more ominous, like a subacute fracture, especially in the humerus [4].

Proper diagnosis often requires advanced imaging, like CT, to dif-

ferentiate these benign findings from actual pathology, preventing unnecessary treatment. It reminds us about the importance of thorough diagnostic workup for unusual bone lesions.

The inherent complications of managing traumatic atlantoaxial dislocation in patients with Down syndrome, due to underlying ligamentous laxity, are addressed [5].

This report demonstrates the successful application of posterior atlantoaxial fixation and fusion. Despite increased surgical risks, a well-planned posterior approach can effectively stabilize the C1-C2 segment, ensuring good neurological outcomes and functional recovery.

Valuable long-term insights are offered into osteochondral graft implantation for severe talar osteochondral lesions, providing a five-year follow-up [6].

The key insight is that even extensive lesions in the talus can achieve good clinical and radiological outcomes with this technique, showing sustained pain relief and functional improvement. This provides encouraging evidence for the durability and effectiveness of osteochondral grafting.

Chronic extensor carpi ulnaris (ECU) subluxation can be tricky to manage, especially when unusual [7].

This case explores a successful tenodesis technique to stabilize the ECU tendon. When conservative measures fail, surgical stabilization using local tendon transfers can provide effective and lasting relief from pain and instability, restoring wrist function even in persistent, atypical cases.

Excision of femoral head osteochondromas presents challenges due to their location and risk to joint integrity [8].

This case introduces a novel technique utilizing a surgical hip dislocation approach. By carefully dislocating the hip, surgeons can achieve direct, comprehensive access for complete and safe excision, minimizing damage to surrounding structures and improving surgical precision.

Returning to sports after a multiligament knee injury is a significant

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goal, and this report provides insight into the rehabilitation process [9].

While these injuries are severe, a structured and individualized rehabilitation program, coupled with precise surgical repair, can facilitate a successful return to pre-injury activity levels, even for high-demand athletes. It highlights the dedication required.

Finally, primary osteosarcoma of the calcaneus is exceptionally rare, making this case noteworthy for its detailed presentation and management [10].

Osteosarcoma typically affects long bones, so finding it in a small bone like the calcaneus is unusual. The key insight is the need for high suspicion and thorough diagnostic imaging in atypical locations, emphasizing that even rare presentations require prompt and comprehensive oncologic and surgical treatment for the best outcomes.

Conclusion

This collection of case reports highlights diverse and complex orthopedic challenges, offering crucial insights into diagnosis and management. We see instances of highly specialized procedures, such as total knee arthroplasty (TKA) in Charcot arthropathy, traditionally deemed too risky, demonstrating its viability with careful technique [1]. Similarly, managing traumatic atlantoaxial dislocation in Down syndrome patients, complicated by underlying laxity, shows successful stabilization through a posterior fixation approach [5].

Several cases emphasize the importance of accurate diagnosis. An intraosseous pneumatocyst of the humerus, for example, was initially mistaken for a fracture, underscoring the need for advanced imaging like CT to prevent unnecessary interventions [4]. The rarity of certain conditions also stands out, like isolated traumatic anterior atlanto-axial dislocation without fractures, which was successfully managed non-surgically, challenging conventional wisdom [2]. Another rare presentation is primary osteosarcoma of the calcaneus, highlighting the need for high suspicion in atypical locations to ensure timely oncologic treatment [10].

The long-term efficacy of treatments is also covered, with a five-year follow-up on osteochondral graft implantation for severe talar lesions showing sustained positive outcomes [6]. For chronic

issues, such as unusual extensor carpi ulnaris subluxation, surgical stabilization through tenodesis proves effective where conservative methods fail [7]. Furthermore, novel surgical techniques are presented, like the surgical hip dislocation approach for excising femoral head osteochondromas, allowing for precise and safe tumor removal [8]. The importance of ongoing vigilance in pediatric orthopedics is also clear, as late-presenting developmental dysplasia of the hip underscores the significant impact of early detection on prognosis [3]. Finally, a structured rehabilitation program, coupled with precise surgical repair, can facilitate a successful return to pre-injury activity levels for high-demand athletes following multiligament knee injuries [9]. These reports collectively illustrate the evolving landscape of orthopedic care, emphasizing meticulous technique, diagnostic precision, and tailored patient management.

References

1. Ahmed G, Aman D, Abhishek R. Total Knee Arthroplasty for Charcot Arthropathy of the Knee: *A Case Report. Cureus.* 2023;15(6):e41169.
2. Mazin A, Faris AS, Mohamad AS. A Rare Case of Isolated Traumatic Anterior Atlanto-Axial Dislocation: *A Case Report. Cureus.* 2022;14(11):e31174.
3. Abigail O, Eoin W, Denis M. Late Presenting Developmental Dysplasia of the Hip: *A Case Report. Cureus.* 2021;13(3):e14041.
4. Yoshihito T, Tomonori K, Takeshi K. Intraosseous Pneumatocyst of the Humerus Mistaken for a Subacute Fracture: *A Case Report. Case Rep Orthop.* 2020;2020:2759501.
5. Jung HK, Yoon H, Joon SA. Successful Posterior Atlantoaxial Fixation and Fusion for Traumatic Atlantoaxial Dislocation in a Patient with Down Syndrome: *A Case Report. Korean J Spine.* 2019;26(1):1-4.
6. Sang BH, Dong KS, Inho J. Osteochondral Graft Implantation of the Talus for Severe Osteochondral Lesion: *A Case Report with 5-Year Follow-up. Int J Environ Res Public Health.* 2023;20(3):2607.
7. Mazin A, Faris AK, Mohammed AK. Management of an Unusual Chronic Extensor Carpi Ulnaris Subluxation with Tenodesis: *A Case Report. Cureus.* 2023;15(1):e33719.
8. Yu N, Xiang Z, Yongliang S. A Novel Technique for Femoral Head Osteochondroma Excision Using a Surgical Hip Dislocation Approach: *A Case Report. J Orthop Surg Res.* 2022;17(1):433.
9. Hitoshi H, Ryo N, Taketo M. Return to Sports After Multiligament Knee Injury: *A Case Report. Case Rep Orthop.* 2021;2021:8871409.
10. Abdulaziz AH, Mohammed AO, Mazin A. A Rare Case of Primary Osteosarcoma of the Calcaneus: *A Case Report. Cureus.* 2020;12(9):e10515.

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