

Department of Orthopaedic Surgery

Division of Sports Medicine

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General Summary

Clinical Research

The ongoing research in our department concentrates on competitive athletes (including professional athletes), amateur athletes who include sports activities in their daily lives, and young athletes engaged in school sports clubs or dedicated to training within sports clubs.

Research Activities

Evaluation of arthroscopic surgery for sports-related injuries of the elbow joint

We examined the results of arthroscopic surgery in 20 patients who had had sports-related injuries of the elbow joint. The injuries were 10 cases of osteochondritis dissecans (OCD) and 10 cases of osteoarthritis (OA). The average age of the patient during surgery was 15 years in the OCD group and 44 years in the OA group. At the final follow-up examination, the range of motion had improved from the preoperative evaluation range by 13 degrees in the OCD group and by 10 degrees in the OA group. Early pain recovery was obtained, and no patient had had intraoperative or postoperative complications. All patients returned to their previous sports activities. Arthroscopic surgery was useful for resection of the free body, synovia, and the bone spur in patients who had OCD and OA of the elbow joint.

Incidence of injuries in professional soccer players: Role of the team physician

We investigated the incidence of injuries and evaluated injury characteristics and treatment difficulties in athletes who had played soccer in the Japan professional league (the J League) for 3 years. Seven players underwent surgery for fractures (3 players), for tears of the anterior cruciate ligament (2 players), or for detachments of the proximal hamstring tendon (2 players). In 2017, 41 injuries, more than half of the total of 75 injuries, consisted of muscle-tendon injuries, including muscle strain. Difficulties of treatment included partial avulsion of the proximal hamstring tendons, intratendinous tendon tears of the rectus femoris muscle, and damage of the musculotendinous junction of the gastrocnemius muscle. Our data suggests the necessity of establishing a proper diagnosis, treatment method, and rehabilitation protocol to allow players with such injuries to quickly return to their preinjury sports activities.

A case of pubic apophysitis developed in a youth soccer player

We report a case of pubic apophysitis that developed in a 17-year-old soccer player. Although X-ray images and magnetic resonance imaging scans had no abnormal findings,

a computed tomography examination showed asymmetrical epiphyseal centers at the pubic tubercle. The patient returned to play after 3 weeks of conservative treatment. Pubic apophysitis, which presents with symptoms similar to those of groin pain syndrome, has been known as a new concept first described in 2015. We need to understand its pathology to be able to differentiate it from other injuries causing groin pain that occur in junior high school and high school athletes.

Open reduction and internal fixation with autogenous bone graft for pseudoarthrosis of the old ischial tuberosity avulsion fracture: A case report

We report on a 27-year-old baseball player who underwent surgery for pseudoarthrosis of an ischial tuberosity avulsion fracture that had occurred 13 years earlier and for whom satisfactory results were obtained. Operative findings showed marked instability in the pseudoarthrosis region. Pseudoarthrosis was curetted and fixed with screws and an autogenous bone graft. Three months after the operation, complete bone union was shown with X-ray images. The patient was able to return to play 6 months after the operation. To our knowledge, only a single report has previously appeared in the literature of a case with symptoms that appeared in a patient in his twenties and originated from pseudoarthrosis of an ischial tuberosity avulsion fracture. In our patient, open reduction and internal fixation with an autogenous bone was effective to stabilize pseudoarthrosis.

A rare case of quadratus lumborum muscle strain that developed in a youth soccer player

We report a rare case of quadratus lumborum muscle strain that occurred during a soccer game. The patient was a 16-year-old boy playing for a youth soccer team. When he was dribbling the ball with another player on his left side, he passed the ball forward and fell on his right foot. At that time, he felt severe pain in the right side of the back. Two weeks after the injury, motion pain and tenderness of the back were not remarkable, and magnetic resonance imaging showed improvement of the muscle strain. He returned to play soccer 3 weeks after the injury. To our knowledge, a case of quadratus lumborum muscle strain that occurred during a sport activity has not previously been reported.

Publications

Itoh G¹, Ishii H¹, Kato H¹, Nagano Y¹, Hayashi H, Funasaki H (Ochanomizu Univ). Risk assessment of the onset of Osgood-Schlatter disease

using kinetic analysis of various motions in sports. *PLoS ONE*. 2018; **13**: e0190503.