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Young athletes' knee instability treated with isokinetic rehabilitation – a case report

When he was 12 years old, while he was playing basketball he acquired a knee injury (not by any direct contact). He reported to Children's hospital (orthopedics department. Diagnosis was distorsio art.gen.dex, distensio lig.col.med.gen.dex. On clinical examination, right knee was swollen and very painful, with limited range of motion, knee in fixed position, active and passive flexion of the knee was impossible. Punction of the knee was performed, some serous liquid tinged with blood was received. He got a knee cast for his right leg, which he was wearing for 3 weeks. He was ordered to rest, so he was in bed for 20 days, only moving around the house using two crutches. After three weeks, he was sent to classical physical therapy, and he was doing kinesytherapy for 6 months. Situation was quite stable for the next 2 years, with only occasional pain and side instability in his right knee, but no major problems.

Two years later, when he was 14 years later, another incident occurred which has brought him again to the Children's hospital. While descending on the not very steep slope, he got has experienced strong pain in his right knee, and he was not able to stand on it any more. Again, he was immediately brought to the doctor, and was sent home with the same diagnosis. Same treatment was performed, and this time he was in his cast and resting for 15 days. He was prescribed kinesitherapy for three months, and was on the crouches for 1 month. One week after getting rid of the crouches, he got distortion of the left knee, coming down the steps. He immediately put ice on it so the swelling was not so great but the knee was very painful. He was again taken to the Orthopedic department of the Children's hospital. They did not put him the cast on that leg, because his right leg was still to weak. He was ordered to lie down for 15 days. After that he was sent to physical therapy, and was doing the kinesitherapy for 45 days. The situation did not improve much, so even with this intensive exercising he could not get rid of his crouches for over 2 months. At that point he came to our rehabilitation center.

At the admittance his knees not swollen, and they were only painful on palpation on the apexes of both patellas. Pain was most pronounced during knee extension without any weights. Great atrophy of the muscles was noticed on examination of both upper legs. In our center 18 treatments were performed (on every day basis), and after 2 weeks the patient was able to walk normally without the crouches. By the end of rehabilitation, knee stability was resumed, and both knees were pain free. His muscle strength has greatly improved, and he was able to continue with his sports activities (rowing).

SUMMARY

12 year old rower was diagnosed with knee instability, and was suffering from it, accompanied with great pain, for 3 years. During that time he was treated with immobilization on several occasions, and has received classical physical therapy (mostly kinesitherapy), without much success. His knees were so painful, and his muscles do week that he could only walk with the crutches for the last few months. At the age of 15, on the first diagnostic test performed on the isokinetic device, his muscle strength was extremely low (). He underwent 17 treatments of isokinetic rehabilitation, which has enabled him to actively improve the strength of his muscles, without straining his knees. Subsequent isokinetic testing has showed dramatic improvement in muscle strength (). Consequently, his knees were stable, and he was completely pain-free. Afterwards he has continued muscle strengthening using standard weightlifting program in the fitness center, and was able to resume his rowing training. A year after the rehabilitation, another isokinetic diagnostic testing was performed, which has shown excellent results, with further muscle strength improvement (). Today he does not have any problems with his knees, and is able to successfully compete in rowing.