

# Use of extracorporeal shock wave therapy for therapy-resistant Schlatter's disease

## Extracorporeal Shock Wave Therapy for Patients Suffering from Recalcitrant Osgood-Schlatter Disease

H. Lohrer , T. Nauck , J.Schöll , J. Zwerver , N. Malliaropoulos

### Summary

**Background:** During the (pre)pubertal growth spurt, the epiphyses/apophyses are particularly sensitive. During high physical exertion in competitive sports, symptoms of overload can lead to growth disorders. The osteochondral lesion of the tibial tuberosity apophysis (Schlatter disease) is the most common predilection site. This results in disorders of short- and long-term resilience and thus of performance in sports.

**Aim of the study:** Using the validated VISA-PG questionnaire, a small cohort of patients (competitive athletes) who were treated with radial extracorporeal shock wave therapy (ESWT) during puberty for therapy-resistant complaints was followed up.

**Patients and Methods:** Nine boys with a median age of 14 (13.5–15.0) years and five girls with a median age of 12 (10.8–15.2) years (16 symptomatic knees) were treated with radial ESWT because of chronic therapy-refractory Schlatters disease. After 5.6 (3.4–6.7) years, all patients were re-examined using the VISA-PG questionnaire.

**Results:** At the time of follow-up, a median VISA-PG score of 100 (82.9 - 100.9) points was achieved. Twelve of 16 knees (75%) achieved 100 of 100 possible VISA-PG points. Four patients had changed their training and competition behavior due to the patellar tendon problems (change of sport). In four knee joints, the pain only persisted during physical exertion. Two patients also reported pain in everyday life (climbing stairs). No side effects from shock wave therapy were observed in the anamnesis.

**Conclusion:** This pilot study shows that radial ESWT is a safe and promising treatment for therapy-refractory Schlatter's disease in the growth phase.

### Abstract

**Background:** Intensive physical load can damage epi-/apophyseal growth. Osgood-Schlatter disease is a well-known and sport-associated overuse injury of the tibial tuberosity apophysis. Long-lasting load-associated pain and a reduced ability to play sports can be the consequence.

**Aim of the Study:** The aim of this study was to analyse the safety and effectiveness of extracorporeal shock wave therapy (ESWT) for recalcitrant Osgood-Schlatter disease.

**Patients and Methods:** 14 adolescent patients, median age 14 (13.2–14.7) years, suffering from recalcitrant Osgood-Schlatter disease (16 symptomatic knees) were treated with radial extracorporeal shock waves. The nine boys, median age 14 (13.5–15.0) years and the five girls, median age 12 (10.8–15.2) were retrospectively followed up 5.6 (3.4 – 6.7) years later using the disease specific VISA-PG questionnaire which is validated for jumper's knee.

**Results:** At follow up the median VISA-PG score was 100 (82.9–100.9). Twelve of 16 knees (75%) reached 100 out of 100 VISA-PG points. Four patients changed their sports activity due to persistent problems at the distal patellar tendon insertion. Four knees had persistent tibial tuberosity pain when playing sport. Pain induced by activities of daily living (stair climbing) was stated in two cases. No side effects or long-term complications were reported.

**Conclusions:** This pilot study demonstrates that radial ESWT is a safe and promising treatment for adolescent athletes with recalcitrant Osgood-Schlatter disease.

## keywords

M. Schlatter - patellar tendinopathy - tendinopathy - osteochondral lesion - extracorporeal shock wave therapy

## Key words

Osgood-Schlatter disease - patellar tendinopathy - jumper's knee - osteochondral lesion - extracorporeal shock wave therapy