



## Case Study of Continuous Knee Joint Traction Treatment on the Pain and Quality of Life of Patients with Degenerative Gonarthrosis

SCIENCE

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A 59-year-old man and 62-year-old woman were presented with degenerative gonarthrosis. They had no issues of breathing, pulse and blood pressure. They also had no consciousness or sensory disorders.

**Which of the following methods could be the suitable management option for this case?**

- NSAIDs
- Knee Joint
- Traction
- Lateral knee injections

### Introduction:

Degenerative gonarthrosis is a disorder caused by damage in the joint cartilage and the surrounding ligaments and muscles, responsible for joint movement. It results in joint weakness and severe abrasion in cartilage leading to pain, stiffness, functional disorder, reduced range of work, and loss of functional independence. The prolonged pain and functional disorder also lead to sociopsychological issues such as acute depression and reduced quality of life. Previous studies have established the promising results of mechanical joint traction of the knee using an external fixing device in patients with degenerative gonarthrosis. It increases joint space and cartilage thickness along with improvement in overall function. However, joint traction is difficult to apply as it used surgical methods disturbing daily life activities.

### Medical History:

NA

### Examination and Laboratory Investigation:

The participants' pain intensity was evaluated by Visual analogue scale (VAS) scores. The pain scores were 8 and 7 points for male and female patient respectively. Quality of life was measured using the short form 36-item health survey (SF-36), which consists of eight sections assessed using 36 questions on physical health. The sections are the physical function, limitations of physical roles, pain, general and mental health, vigour, social function, constraints of emotional roles, and mental health. The male participant indicated an SF-36 score of 81 points whereas female participant indicated an SF-36 score of 78 points.

### Management

The participants were asked to bend their knee and hip joints at 60 degrees in the supine position. The



continuous knee joint traction treatment was applied to tow the tibia in cephalocaudal direction, and the strap secured it. A force equivalent to 6% of the participant's weight was, and the traction was continued for 20 min at a stretch. The treatment was administered 20 min once a day and five times a week for at least 4 weeks. After the treatment, VAS scores decreased from point 8 to point 1 and point 9 to point two whereas SF-36 scores increased from point 81 to point 93 and point 78 to point 96 in both male and female patient respectively.

### **Discussion:**

This study reported the 2 cases of patients with degenerative gonarthrosis of the knee who received continuous knee joint traction. The results of the study showed a significant decrease in pain after applying the treatment. Positive effects of external fixing device were observed on reducing pain. The present study results were consistent with results of the previous surveys. The mechanistic approach behind the continuous traction is muscle relaxation, stimulation of dynamic muscle contractions, and inhibition of protective muscle reflexion all of which are effective in decreasing pain. Furthermore, the increase in the joint space is also one of the reasons behind the pain reduction.

### **Learning:**

- The results of the present case report suggested that continuous knee joint traction is useful for the treatment of patients with degenerative gonarthrosis of the knee. It demonstrated a significant improvement in gait and quality of life.

### **References:**

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