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Management of Non-Septic Olecranon Bursitis Using Interferential Therapy: A Case Study

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Abstract

Olecranon bursitis is a condition which is characterized by pain and swelling over the tip of the olecranon process. It usually develops due to repeated pressure, minor trauma, or prolonged leaning on hard surfaces. It is commonly seen in students and office workers who tend to rest their elbows on desks for long periods, which is why it is often called "student's elbow."

In most cases, the condition is non septic and can be managed conservatively. Physiotherapy plays an important role in reducing swelling, relieving pain, and restoring normal range of motion. Among the different modalities used in physiotherapy, Interferential Therapy (IFT) is widely used because of its deeper penetration and effectiveness in reducing pain and edema.

This case study focuses on the role of IFT along with basic physiotherapy in treating a patient with olecranon bursitis.

Objective

The objective of this study is to assess the swelling, pain, and restriction of movement in the right elbow joint and to evaluate their impact on the patient's functional activities. The study also aims to identify the possible underlying cause of the condition and to determine the effectiveness of physiotherapy management in reducing pain, improving range of motion, decreasing swelling, and restoring functional use of the right upper limb.

INTRODUCTION

Olecranon bursitis is a condition in which swelling develops over the tip of the elbow due to inflammation of the olecranon bursa. The bursa is a small fluid-filled sac that helps reduce friction between the bone and surrounding soft tissues. This condition commonly occurs because of repeated pressure on the elbow, prolonged leaning on hard surfaces, minor trauma, or overuse. It is often seen in people who work at desks for long hours and is sometimes called "student's elbow."

Patients usually complain of swelling, pain, tenderness, and difficulty in elbow movements. In non-septic olecranon bursitis, there are no signs of infection such as fever, redness, or warmth. Physiotherapy plays an important role in reducing pain and swelling, improving range of motion, and restoring normal function. Modalities such as Interferential Therapy (IFT), cryotherapy, and therapeutic exercises are commonly used for conservative management. This case study highlights the effectiveness of physiotherapy management in a patient with non-septic olecranon bursitis.

Case Description and Assessment

A 32-year-old male patient, AL, employed in a desk job, presented with complaints of swelling over the

posterior aspect of the right elbow for the past 5 days. The swelling was gradual in onset and was associated with pain around the elbow joint, especially during movement. The patient reported increased discomfort while attempting to bend or fully move the elbow, which resulted in difficulty performing routine activities involving the right upper limb.

The patient stated that the pain was aggravated during activities such as leaning on the elbow, lifting objects, and prolonged use of the arm during work-related tasks. He also experienced mild stiffness around the elbow joint due to the swelling and pain. No history of major trauma was reported; however, prolonged pressure on the elbow during desk work may have contributed to the condition. The patient denied any numbness, tingling, or radiating pain to the forearm or hand.

Due to the pain and restricted movement, the patient experienced difficulty carrying out occupational and daily functional activities comfortably. Clinical presentation suggested inflammation around the elbow region, affecting joint mobility and causing functional limitation. Further assessment and physiotherapy evaluation were advised to identify the severity of the condition and plan appropriate management.

History of Present Illness

The swelling started gradually and increased over last 5 days. The patient had a habit of resting his elbows on the table while working for long hours. There was no history of trauma, fever, or systemic illness.

Past History

There was no history of similar complaints in past. The patient also denied any history of gout, rheumatoid arthritis, or injury to the elbow.

Clinical Examination

Observation

On inspection, localized swelling was seen over the olecranon region. There was no redness or visible signs of infection.

Palpation

On palpation, the swelling was soft and fluctuant in nature, indicating fluid accumulation. Mild tenderness was present, but there was no increase in local temperature.

Range of Motion (ROM)

Elbow flexion was slightly restricted due to swelling

Extension was almost full but painful at the end range

Manual Muscle Testing (MMT)

Biceps muscle strength was normal

Triceps contraction caused slight discomfort

Special Tests

Fluctuation test was positive, confirming fluid presence

Transillumination suggested fluid-filled swelling

Joint line tenderness was absent

Valgus and varus stress tests were normal
No signs of infection such as redness, heat, or fever were present
Clinical Diagnosis
Based on these findings, the patient was diagnosed with non septic olecranon bursitis.

Uniqueness of the Study

This case is important because the patient showed quick recovery with simple physiotherapy management without the need for medication or invasive procedures. The use of IFT helped in reduce swelling faster, which improved the patient's function in a short duration.

Treatment Protocol

Duration: 10 days
Frequency: 5 sessions per week

Interventions Used

The patient received physiotherapy treatment for 10 days, 5 sessions per week. In the beginning, Interferential Therapy (IFT) was given for 15–20 minutes to reduce pain and swelling. Cryotherapy was applied for 10–15 minutes after IFT. The patient was advised to avoid leaning on the elbow and to modify desk activities.

After pain and swelling started reducing, gentle elbow range of motion exercises were started to improve movement and prevent stiffness. Later, light strengthening exercises for the elbow muscles were added along with posture and ergonomic advice. By the end of treatment, the patient was able to perform daily activities comfortably without pain.

Outcome Measures

Range of motion

Movement	**Before Treatment**	**After 10 Days**
Elbow Flexion	Slightly restricted and painful	Full and pain-free
Elbow Extension	Almost full with end-range pain	Full and pain-free

MMT

Muscle Tested	**Before Treatment**	**After 10 Days**
Biceps	Grade 5/5	Grade 5/5
Triceps	Grade 4/5 with discomfort	Grade 5/5 without pain

Pain level (VAS scale)

VAS Score	Pain Level
0	No pain
1–3	Mild pain
4–6	Moderate pain
7–9	Severe pain
10	Worst possible pain

Result

Day	VAS Score
Day 1 (Before Treatment)	6/10
Day 3	5/10
Day 5	3/10
Day 7	2/10
Day 10 (After Treatment)	1/10

Parameter	Before Treatment	After 10 Days
ROM	Restricted	Full
Function	Difficulty in daily use	Normal

Discussion

The findings of the case support the use of physiotherapy for the effective management of olecranon bursitis. IFT played a major role in reducing pain and swelling, possibly due to its effect on circulation and stimulation of deeper tissue.

The early treatment also helped in preventing stiffness and improve recovery time. Compared to rest alone, combining electrotherapy with exercises gave better and faster results.

Limitations

Only one patient was studied

No long-term follow-up was done

No imaging techniques like MRI were used

Despite these limitations, the improvement observed in this case was significant.

Conclusion

This case study demonstrates that non-septic olecranon bursitis can be effectively treated with physiotherapy. The use of Interferential Therapy, along with basic care such as ice application and exercises, helped the patient recover within a short period.

Future Scope

Further studies should be conducted on more patients and for a longer duration to compare the results and improve treatment approaches.

References

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