



Case Report

Non Traumatic Painful Stiff shoulder in a Child: Outcome of Physical Management

Suzon Al Hasan¹, M A Jafor², A K M Salauddin³, M T Islam⁴, S M S Ahmed⁵, M N Islam⁶

Abstract

Non-traumatic painful stiff shoulder is uncommon in children. It causes morbidity in which a wide range of activity is curtailed. Patients are getting usual treatment, like other diseases without necessary advice for physical therapy. Proper management along with physical therapy will reduce the morbidity. Uncommon presentation of stiff shoulder and its management by physical therapy leads us to report the case.

TAJ 2002; 15(2): 90-92

Introduction

Non traumatic painful stiff shoulder is uncommon in children.^{1,2} Unlike injury it is seen in a variety of conditions including apical lung tumor, pulmonary tuberculosis, thyrotoxicosis, herpes zoster, septicemia, breast or thoracic surgery etc.^{4,5} Majority of cases of septic arthritis in children affect large joints of the hip, knee, ankles etc.^{1,2} However any joint may be the site of sepsis.³ The aim of management is directed to the shoulder for the purpose of: i) relieving pain and muscular spasm ii) restoring range of joint motion iii) improving circulation and local tissue metabolism iv) restoring muscular strength and function in the upper extremity. The standard physiotherapeutic management for the painful stiff shoulder include a) deep heat modalities such as ultrasound, microwave and shortwave diathermy (SWD) and

b) exercise such as: i) stretching exercises like Codman exercise, Sperry's exercise, exercise in Chandler position ii) strengthening exercise iii) wall climbing exercise iv) shoulder wheel v) wand exercise vi) pulley exercise etc. Physiological responses that are accepted as a basis for therapeutic application of heat are: heat decreases joint stiffness, produces pain relief, relieves muscle spasm, increases blood flow and assists in the resolution of inflammatory exudates.⁶

Case Note

H Afif, a ten years old boy hailing from Baghmara, Rajshahi was admitted into Pediatric Surgery Department of Rajshahi Medical College Hospital (RMCH) who was referred to Physical Medicine Department of RMCH with the complaints of painful stiffness of left shoulder joint for two weeks. He had past history of multiple pyogenic

¹ Assistant Professor, Department of Physical Medicine, Rajshahi Medical College, Rajshahi-6000, Bangladesh

² Assistant Professor, Department of Paediatric Surgery, Rajshahi Medical College, Rajshahi-6000, Bangladesh

³ Radiotherapist, Department of Radiology & Imaging, Rajshahi Medical College, Rajshahi-6000, Bangladesh

⁴ Medical Officer, Department of Radiology & Imaging, Rajshahi Medical College, Rajshahi-6000, Bangladesh

⁵ Associate Professor, Department of Paediatric Surgery, Rajshahi Medical College, Rajshahi-6000, Bangladesh

⁶ Assistant Professor, Department of Orthopedic Surgery, Rajshahi Medical College, Rajshahi-6000, Bangladesh

abscesses over chest wall. Those were surgically treated in the Paediatric Surgery Department on February 20, 2001. He also received standard medical regimen along with antibiotics. His general condition improved without significant improvement of stiffness of the left shoulder. On physical examination there was painful restriction of left shoulder joint with a limited flexion 50° , extension 30° and abduction 55° . He was advised physical therapy in the form of therapeutic exercise of the affected joint following application of therapeutic deep heat with shoulder joint in a dose of twenty minutes every alternate day for two weeks. After the initial therapy of two weeks joint mobility was measured. There was significant improvement of range of motion of flexion 150° , extension 60° and abduction 145° respectively. He was advised to continue shoulder mobilizing exercise at home and prescribed SWD twice weekly for further two weeks. After a total of four weeks treatment in the Physical Medicine Department, the joint movement were measured and found full range of motion in the affected joint.

Discussion

The importance of exercise in preservation of joint range of motion and muscle strength was acknowledged as early as 1000 BC by the Chinese.⁷ The Greeks and Romans also appreciated the contribution of movement made to good function, but went a step further by suggesting that exercise should be done in moderation.⁸ These observation and recommendation remain the basis of exercise program in treating recovery stage of septic arthritis.² Motivation of patient about exercise is most important. Practical application of the exercise in the Physical Medicine Department is an important factor for motivation prior to which deep heat therapy may be given to increase the pain threshold. It can be said that physical therapy in the Department of Physical Medicine can play an important role treating patients suffering from joint stiffness, specially those who are refractory to usual treatment.



Photograph I: Showing: Treatment with deep heat (Short wave diathermy)



Photograph II: Showing: Shoulder mobilizing exercise in shoulder wheel

References

1. Nelson J D. Osteomyelitis and Suppurative Arthritis. IN: Behrman R E, Kliegman R M, Jenson H B, editors. *Nelson Textbook of Pediatrics*, 16th ed. Philadelphia: WB Saunders Company, 2000; 776.
2. Barr D G D, Goel K M. Disorder of Bone and Cartilage. IN: Campbell AGM, McIntosh N, editors. *Forfar and Arneil's Textbook of Paediatrics*, 4th ed. Edinburgh: ELBS with Churchill Livingstone, 1992; 1664.

3. Tachdjian M O. Pediatric Orthopedics. 2nd ed. Philadelphia: WB Saunders Company, 1990; 1415.
4. Spiegel T M and Crues II J V. The painful shoulder: Diagnosis and Treatment. Primary Care 1988; 15: 709-24.
5. Mumaghan P. Adhesive capsulitis of the shoulder: current concepts and treatment. Orthopaedics 1988; 11(1): 153-8.
6. Lehmann J F, Delateur B J. Diathermy and superficial heat, laser and cold therapy. IN: Kottke FJ, Lehmann JF, editors. Krusen's handbook of physical medicine and rehabilitation. 4th ed. Philadelphia: WB Saunders Company, 1990; 285-367.
7. Gerber L H, Hicks J E. Exercise of the rheumatic disease. IN: Basmajian J V, Wolf S L, editors. Therapeutic Exercise. 5th ed. Baltimore: Williams and Wilkins, 1990; 333.
8. Starz T W, Miller E B. Diagnosis and treatment of rheumatoid arthritis. Primary care 1993; 20:827-37.

All correspondence to :-
Dr. Suzon Al Hasan
Assistant Professor
Department of Physical Medicine
Rajshahi Medical College, Rajshahi, Bangladesh.