Case Report

Pentazocine Induced Contractures: A Case Report of Drug Abuse

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Abstract

Contractures around the joints are seen due to multiple causes in our day to day practice where pathology can be superficial or deep. Further it can involve one joint or multiple joints. We are presenting a rare case of drug abuse due to pentazocine (fortwin) here in a 32 years old male, who had generalised and severe contractures of his hips, knees and ankles. In all such cases of myogenic generalised contractures around multiples joints, we must exclude the possibility of drug abuse.

Key words : **Contracture, pentazocine.**

Introduction:

Contractures are seen either due to intra-articular lesions or due to extra-articular lesions. Intra-articular lesions have a definite joint pathology, while extra-articular lesions are due to paralysis, myopathy, spasticity, myositis and vascular ischaemia, etc. There are few reports[1,2] of myopathy following chronic pentazocine administration. The myogenic contractures due to parenteral use of narcotics are rare clinical presentation[3,4]. The association with contractures around the shoulder and hip joints have been reported earlier[5,6] but we have not been able to find such a case of extensive myogenic involvement of bilateral hip, knee and ankle along with lower abdomen due to drug abuse in the literature.

Case Report:

A 32 years old male, Ayurvedic physician presented with the complaints of walking in equinus both sides along with complete stiffness of both hips, knees, ankles, lower lumbar spine and both shoulders in our OPD of Dept of PMR, KG Medical University, Lucknow in 2011. He was non-diabetic, normotensive. He gave the history of chronic abuse of injection pentazocine (up to 2 ampoules per day, intravenous as well as intramuscular) while he was undergraduate i.e., 10 years before, for relief of severe ureteric colic. His father, a general practitioner himself used to give injection to his son for relief of pain and then gradually he became an addict. He used to self administer the injections on his shoulders, anterior abdominal wall, buttocks, hips, thigh, calves, forearms and upper arms. Later he developed multiple subcutaneous and muscular abscesses (calves and thighs). He also gave history of road traffic accidents leading to multiple fractures around knee joint (bilaterally), left elbow and dislocation of right shoulder.

On examination, his cardiorespiratory and neurological examination showed no abnormality except stiffness of lower abdominal wall. On local examination of both lower limbs thick scar marks of abscess drainage (Fig 1) was seen and tone of musculature gave feeling of abnormal stony hardness with shining skin all over lower limbs (Fig 2). No active and passive ROM was observed in both hip and knee. His feet were in equinus; more severe on right side and few degrees (10-15 degree) of dorsiflexion was seen on either side. He walks on toes with straight knees as if fused in full extension (bilateral) and rotated pelvis for each step.

He was unable to do dressing, squatting and cross-legged sitting and to sit on chair.

His routine blood investigations were within normal limits, Hb-14g/dl, Total leucocyte count-9100/cmm,

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Fig 1- *Scar Marks of Abscess Drainage*

Differential leucocyte count: Neutrophils- 66%, lymphocytes-30%, eosinophils-3%, monocytes-1%, ESR (Wintrobe's Method)-10 mm in first hour, serum calcium-9.7 mg/dl, serum phosphorus-3.8 mg/dl, serum alkaline phosphatase-230 IU, Blood sugar (random)-128mg%, serum creatine-0.7mg/dl, serum CPK-74 IU. Elisa test for HIV, hepatitis C and hepatitis B surface antigen, all were found negative.

EMG of bilateral gastrocnemius, tibialis anterior and vastus medialis revealed normal EMG pattern. High resolution sonography with colour flow imaging and extended field of view imaging have been done for evaluation of both thighs with direct contact scanning technique with 10 & 12 MHz transducers. Both thigh muscles were well visualised. The muscles were echogenic in texture but normal muscle bundle appearance was lost. The pinnate fibre was lost. It involved the diffuse muscle in anterolateral compartments. No evidence of any mass or calcification was seen. On colour flow imaging, no flow was seen in the muscle bundle. However normal flow was seen in common femoral and superficial femoral arteries on both sides. The findings were suggestive of ecogenic pattern of the thigh muscle with loss of normal muscle texture and suggestive of diffuse fibrosis with normal study of thigh vessels.

Fig 2- *Shiny, Indurated Skin with Fixed Contractures*

Skiagram of both knees (AP and lateral) showed normal articular cartilage, without any erosions or calcification. Skiagram also showed orthopaedic implant in situ with presence of radiological sign of fracture union (X-ray 1). Skiagram of pelvis with both hips (AP and lateral view) - showed normal acetabulum and head of femur, without any erosions/destructions or calcification (X-ray 2). Skiagram of LS spine (AP and lateral view) - showed normal disc space, shape of body of vertebrae without any erosions/destruction or calcification in paravertrbral region (X-ray 3).

Clinical Diagnosis:

Pentazocine (fortwin) abuse leading to generalised muscle fibrosis in lower limbs, lower back and both shoulder regions.

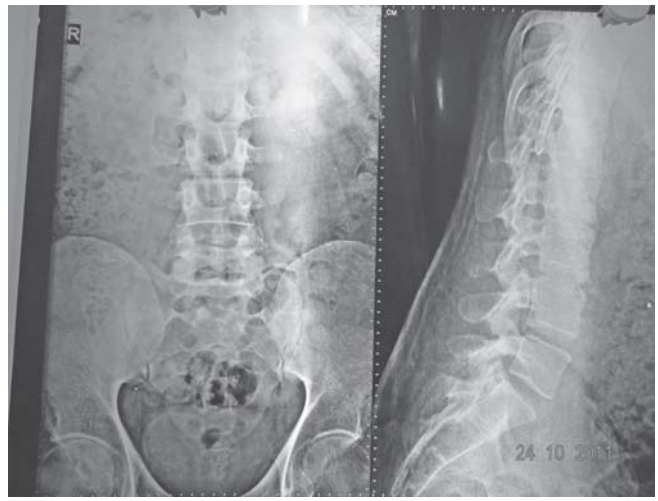
At the end, he came to us for correction of equinus deformity of feet. We had advised gradual passive stretching of plantar flexors, ankle mobilisation exercises, gait training with a suitable walking stick. While he was advised exercises, he was also advised to attend de-addiction programme. His family is now providing him long term good care, support, co-operation and help in his rehabilitation process. The surgical intervention was another option for him for which he has not consented presently.

Discussion:

We have not come across such a case of drug abuse in our OPD since many decades. However whenever contracture occurs, it is either due to a joint disease or due to muscular pathology. In the present case, all weight bearing joints of both lower limbs (hip, knee and ankle) were having no joint pathology as evident by normal skiagrams and his multiple fractures have united fairly well in the past. Normal CPK value and normal EMG pattern ruled out any ongoing muscle destruction pathology as reported in few studies. Schlicher *et al*[7] reported that pentazocine injection precipitates in extra-cellular tissue resulting in inflammation. Palestine *et al*[8] had observed fibrosis endarteritis, vascular

X-Ray 1: *Orthopaedic Implant in-situ with Presence of Radiological Sign of Fracture Union*

X-Ray 2: *Normal Acetabulum and Head of Femur, without any Erosions/Destructions or Calcification*



X-Ray 3 – *Normal Skiagram of LS Spine*

thrombosis, granulomatous inflammation and fat necrosis in histopathological studies in muscles after repeated use of pentazocine parenteraly.

It is a common practice to use pentazocine (fortwin) for management of severe chronic pain and slowly the individual becomes addict. Good numbers of studies are presently available to see the long term use and its ill effect leading to sclerotic ulcers, myopathy and contractures. In such cases, we must start de-addiction therapy, counselling and treatment of contracture as early as possible to save each joint. In every case of contracture, may be locally or generalised we must take proper history of pentazocine abuse.

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