

Case Report

Avascular Necrosis of Femur Neck in Young Adult Secondary to Indigenous Medicines — An Eye Opener for Clinicians

Parshika Panwar¹, Ravi Kant², Manjunath Totaganti³, Rohit Raina⁴

Psoriasis is a chronic inflammatory disorder affecting the skin, its treatment is dependent on both topical and systemic therapy including glucocorticoids. The use of indigenous medicine is rampant in countries like India and at time they contain steroids in one or the other the forms. Hereby, we present a case of psoriasis in young adult consuming indigenous medicine for the control of psoriasis that resulted in diabetes mellitus, cushingoid features and avascular necrosis of bilateral hips. Probably it contained steroids, Physician should be aware of the warning signs when coming across the use of long term indigenous medicines.

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Key words : Psoriasis, Indigenous medicine, Iatrogenic Cushing, Avascular necrosis of hip.

Psoriasis is a dermatological chronic inflammatory disorder and treatment has been revolutionised by the use of glucocorticoid because of anti-inflammatory and anti-proliferative properties¹. The practice of using indigenous herbal medicines for treatment is rampant in countries like India. Indigenous herbal medicines may contain one or other substances including steroids which may cause adverse effects on prolonged use². The physician may be unaware of the use of alternative medicine herbal products by their patients. Possible adverse events of these products need to be highlighted so that both the physician and consumer should be cautious in their use. Here we present a case of indigenous herbal medicine abuse presented with complications in a resource limited country like India.

CASE REPORT

A 28-year-old male presented to diabetic clinic for control of hyperglycemia which was for undergoing hip replacement surgery. This gentleman was suffering from bilateral hip pain for last 6 months. It progressed insidiously and was associated with limping. He had history of psoriasis diagnosed at the age of 16 years, for which he was taking indigenous oral medications and topical applications. Detailed history revealed that he developed diabetes mellitus four years back along with diminution in vision for two years after starting the indigenous medicines, for which he consulted an ophthalmologist and detected to have cataract in left eye that was treated by surgery. On examination he had facial erythema suggestive of acne rosacea, purplish striae over

Editor's Comment :

- The use of steroid is quite common in herbal preparations.
- Clinicians need to be aware about the early adverse effects of steroids to prevent the advanced complications like osteoporosis and avascular necrosis of femur.

the abdomen with width >1cm (Fig 1), cataract was detected in right eye, pseudophakia in left eye, musculoskeletal examination showed limping gait, apparent shortening and reduced range of motion in all directions at left hip joint. His blood chemistry revealed HbA1c 12.5 gm%, C-peptide was 2.41 ng/ml, postprandial blood glucose of 463 gm/dl. His x ray pelvis was done which showed osteosclerosis in right head of femur with chip fracture and discontinuity in shenton's line (Fig 2). Magnetic resonance imaging (MRI) of pelvis showed changes suggestive of collapse of right femoral head with architectural changes in acetabulum and avascular necrosis (AVN) of both femur head (Fig 3).

DISCUSSION

Indigenous or traditional system of medicine has been



Fig 1 — Striae on anterior abdominal wall (red bold arrows)

Department of General Medicine, All India Institute of Medical Sciences, Rishikesh, Uttaranchal 249203

¹DNB, Senior Resident

²MD, Additional Professor and Corresponding Author

³MBBS, Junior Resident

⁴MD, Senior Resident

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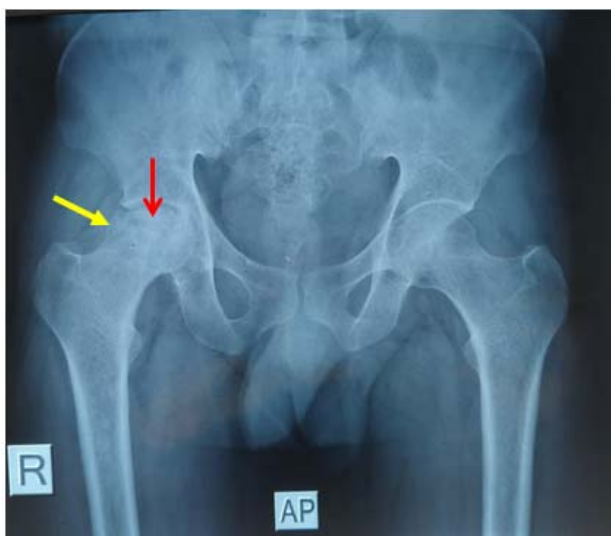


Fig 2 — Plane X-ray hip AP view showing osteonecrosis of right femoral head with collapse (red bold arrow) and chip fracture in right femoral head (yellow bold arrow)

widely practiced in Indian subcontinent and people have faith on these products as these are based on the natural products. The use of indigenous herbal preparations is common for psoriasis both in oral and topical form. These medicines are considered to be devoid of side effects by people and advertised similarly^{3,4}.

There are plenty of reports regarding steroidal contents and possible adulteration of these indigenous medicines². Certain other constituents of these products like heavy metals and alkaloids may also lead to adverse events⁵. Steroids may result in systemic side effects including Cushing syndrome and Hypothalamic Pituitary Adrenal (HPA) axis suppression if used for prolonged period¹. These are commonly seen in children secondary to use of topical steroids for diaper dermatitis and in adults secondary to use of steroids for Psoriasis⁶. Index case is also an adult with prolonged use of indigenous oral and topical preparations. The nature of product not been told by patient but he was describing it some kind of local application and 'churan' so constituents can't be commented but we believe it to be steroid adulteration. Avascular necrosis is a known consequence of overuse of steroids but not frequently reported in literature.

Avascular necrosis is a severe adverse outcome of glucocorticoid excess, commonly seen in age group of 30-50 years. Most common site of AVN is femoral head particularly its weight bearing anterolateral part, being risk of developing AVN of the femoral head is 0.3% with an incidence of one per one thousand patients per year⁷.

AVN is characterised by necrosis of cellular component of bone secondary to impaired blood circulation. Various etiologies may lead to AVN including alcoholism, steroid excess, trauma, gaucher disease and sickle cell disease⁸. Mechanism of AVN due to steroid excess is imbalance between bone resorption and repair, vascular impairment and apoptosis. Steroids promote

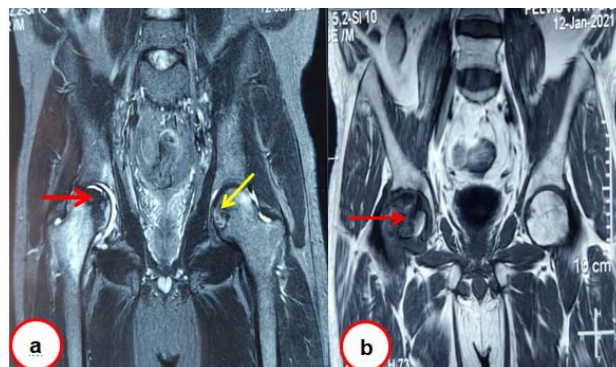


Fig 3 — MRI Images (a) STIR sequences showing destruction of right femoral head with collapse and osteoarthritic changes (red bold arrow), osteonecrosis of left femoral head (yellow bold arrow) (b) T1 weighted images showing osteonecrosis of right femoral head (red bold arrow)

adipogenesis in bone marrow precursor cells due to upregulation of transcription factor like PPAR- γ and down regulation of RUN-X2 thus affecting osteoblast differentiation. Steroids also affect the vascular supply of bone by affecting angiogenesis process due to decreased VEGF, fat emboli and direct compression of arteries due to increased intraosseous pressure from adipogenesis, occlusion of vasculature due to thrombi and finally due to hypertension leading to epiphyseal artery constriction and damage^{8,9}.

Patient may not notice any pain in early stages of avascular necrosis but with worsening of condition severity of pain increases causing functional impairment⁸. As in our index case, symptoms were mild initially which worsen with time affecting his daily activities.

Early radiological changes are patchy subchondrallucency and sclerosis. Advanced stages show subchondral fracture crescent with articular surface collapse and secondary osteoarthritis. X-ray findings in our case were pointing towards AVN so further confirmation with MRI was done which was showing collapse of right femoral head with arthritic changes in acetabulum and AVN of left femoral head. MRI is more sensitive in catching disease in early stages. MRI allows sequential evaluation of asymptomatic lesions that are undetectable on plain radiographs and facilitates initiation of therapeutic measures early¹⁰.

Treatment of AVN depends upon the stage and extent of AVN, early options include conservative measures restricted weight bearing, continuous use of a wheelchair, bisphosphonates and vitamin D¹¹. Before collapse of joint and osteoarthritis treatment is preferably with core decompression along with bone graft and rotational osteotomy to divert weight bearing. If more than two-thirds of the weight bearing articular surface area is involved, it may lead to collapse of femoral head. After collapse of joint without osteoarthritis, hemiarthroplasty is recommended and after osteoarthritis with collapse, total hip replacement is the method of treatment^{11,12}.

CONCLUSION

Indigenous medicines may be effective in some medical conditions but not devoid of serious adverse events which may be due to inherent constituents or adulteration with steroids or heavy metals. Clinician should be aware and vigilant about the use of indigenous products by patients. Early diagnosis and identification of complication is required for best treatment outcomes particularly in adults.

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