An elderly man came with a painful and swollen left leg. He had a history of hypertension that was controlled on drugs. He also had undergone open cholecystectomy six months back, but was ambulatory at present. Three days before presenting felt had a sudden onset pain in his left leg. Soon it was followed by swelling. On examination his systemic examination was normal. There was no history of trauma or any evidence of malignancy or prolonged immobility. The left leg was swollen up to the knee and the foot. His calf was tender on palpation, dorsiflexion was painful and Achilles tendon was intact. There were no color changes and peripheral pulses were well felt. Interestingly he had a similar history one year back and had become alright with some analgesics but did not get evaluated. Suspecting deep vein thrombosis (DVT) I advised a Doppler ultrasound of his left leg. In the meantime I gave him mild analgesics and advised him to keep his leg compressed (using a crepe bandage) and elevated. After a few days he came back to me with only mild improvement. His Doppler showed a large medial gastrocnemius tear with no DVT. For further management I sent him to a physiotherapist.

Gastrocnemius muscle injury or tear (tennis leg) is usually seen in middle-aged athletes who indulge in sports activity like tennis, badminton etc. It occurs intermittently (weekend warriors) but it can also be seen in those without any history of such activity. Among athletes it usually occurs when the knee is extended, ankle dorsiflexed putting gastrocnemius muscle at full stretch (1). The tear usually occurs in the medial head of the muscle. Yilmaz et al (2) reported unusual presentation of such injury during improperly offered namaz prayer in Turkey in fourteen patients. Interestingly in four of them an erroneous diagnosis of deep vein thrombosis was made initially on clinical grounds. Patients with such injuries may present with acute onset pain and swelling of one leg or it can be insidious in onset. It has to be usually differentiated from popliteal cyst rupture. In such cases there is history of preceding popliteal cyst that is painless. It has also to be differentiated from deep venous thrombosis (feeble distal pulses, period of immobility or malignancy), and an Achilles tendon rupture (inability to plantar flex the foot and a palpable distal defect of the tendon).

Regarding the diagnosis a Magnetic Resonance Imaging is supposed to be the most sensitive and specific modality for confirmation of diagnosis. However Doppler ultrasound can also be used and is quite sensitive and cost effective. Initial treatment involves application of RICE therapy (rest, ice, compression and elevation) for the first 48-72 hours. Keeping the ankle in a position of maximal tolerable dorsiflexion using ankle/foot bracing expedites the healing rate. Compression dressing can be applied from the metatarsal heads to the gastrocnemius for the first two weeks. Analgesics like NSAIDs should be avoided initially as they can cause bleeding and hematoma formation in the injured area. However COX-2 inhibitors which are bereft of this potential complication can be safely used. After initial therapy, physiotherapy can be instituted: initial active resistance dorsiflexion exercises, followed by plantar flexion exercises. Ultrasonography and massage stimulation are also applied. Patients can resume normal activity once they are free of pain and achieve full and symmetric range of motion exercises.

If untreated, such patients develop fibrosis in the affected area and get predisposed to repeated tears in the future. Perhaps our patient had sustained this injury first time one year back and the present episode was a rupture of the fibrosed area. To avert this, strengthening and stretching of the injured area should be continued for several months.
Use of regular physical activity with maintenance of flexibility in the gastrocnemius muscle can be helpful.

References


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