Abstract
We report a 22-year male who developed progressive distension of abdomen, clinically diagnosed as ascites. A diagnosis of abdominal lipomatosis was made on the basis of CT evidence of excessive fatty tissue in abdominal cavity which was confirmed on laparotomy.

Diffuse Abdominal Lipomatosis

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CASE REPORT
MA, 22-year male presented with slowly progressive painless distension of abdomen of 5 years duration. There was no associated history of constitutional symptoms, altered bowel habits, alcohol consumption or symptoms suggestive of chronic liver disease. The patient gave history of repeated negative abdominal paracentesis in the past. Examination revealed emaciated young male with marfanoid habitus, weight 52 kg, body mass index 17.9 kg/m$^2$ and waist to hip ratio of 1.0. Patient was normotensive and general physical examination was unremarkable. Abdomen was distended (abdominal girth 89 cms) with few visible veins and bilateral indirect inguinal hernias. Percussion note was dull all over abdomen and there was no shifting dullness; however, a doubtful fluid thrill was palpable. Abdominal paracentesis was negative. Routine investigations including hemoglobin, complete blood counts, blood glucose, blood urea nitrogen, serum creatinine, transaminases, proteins, uric acid, and glucose tolerance test were in normal range. Lipidogram revealed a total cholesterol of 154 mg/dl, HDL 58 mg/dl, LDL 78 mg/dl and serum triglycerides 90 mg/dl. Electrocardiograph, x-ray of chest and urine analysis were normal. Ultrasonography of abdomen revealed mild hepatosplenomegaly with increased echogenicity and no free fluid in abdomen. Computed tomography of abdomen showed diffuse fatty infiltration of omentum (low attenuation value -92.9 HU) displacing bowel loops posteriorly (Fig. 1). There was no well circumscribed mass lesion of free fluid in the abdomen. Fine needle aspiration cytology of omental fat revealed adipose cells only. Antegrade urography didn’t reveal any obstruction of ureters or bladder. The patient was subjected to laparatomy. Abdominal cavity was found to be occupied from diaphragm to pelvis by a huge mass of fat originating from right side of retroperitoneum. Bowel loops as well as right ureter were displaced to left side. Liver did not show any gross features of fatty infiltration. About 15 kg of solid fat was removed by excising along the right side of the lateral margians (Fig. 2). Colon and right ureter were kept back at their anatomical position. The patient had an uneventful post-surgery recovery. Histopathological examination confirmed the diagnosis of benign lipomatosis.

DISCUSSION
Lipomatosis can affect a multitude of anatomic sites, although a predilection for the lower extremities exists in most
cases. Multiple symmetrical lipomatosis (MSL) is a rare condition of the fatty tissue affecting mostly white men between 25 and 60 years of age. It may occur sporadically or in families. MSL is characterized by collection of large non-encapsulated lipomas mainly located in the subcutaneous tissues of the cervical, deltoid, thoracic, abdominal and pelvic areas. The disease is often associated with dyslipidemia (hypertriglyceridemia and paradoxically high HDL), impaired glucose tolerance, hyperuricemia, macrocytic anemia and peripheral neuropathy. Central nervous system abnormalities and neuropathy (sensory, motor, autonomic) have been reported in this disorder. MSL may primarily involve nape of the neck and supraclavicular and deltoid regions resulting in the bull-necked appearance (Madelung collar) or may extend over whole body, giving the appearance of simple obesity.

The cause of MSL is not known. Isolated adipocytes have increased lipoprotein lipase activity and a defect in adrenergic lipolysis. Lipolytic responses to cyclic AMP is intact, suggesting an abnormality at the hormone receptor/adenylate cyclase unit. Some authors have suggested that the defective lipolysis is due to a disorder in the mitochondria of brown fat whose distribution is similar to the peculiar pattern of lipomas in MSL. Alcohol consumption is common and may cause coexisting folate deficiency, macrocytic anemia and abnormal liver functions. Alcohol could both promote development of lipomas through changes in the number and function of beta adrenergic receptors because of its lipogenic and antilipolytic action.

Mediastino-abdominal lipomatosis is a variant of MSL characterized by massive enlargement of abdomen (pseudoascites) due to intraperitoneal and retroperitoneal fat, exertional dyspnea due to compression of airways by lipomas of mediastinum, and abnormal glucose tolerance or diabetes mellitus. Intra-abdominal lipomatous tissue obtained during laparoscopy from four patients in one series documented a reduced lipolytic response to β-adrenergic stimulation. Thus, fat deposition in abdominal and mediastinal areas could be casually related to defective lipid mobilization in lipomatoses. Lipomatosis may involve small intestine, colon or arise in the mesentery.

Pelvic lipomatosis has been reported more commonly in males. Symptoms include bladder dysfunction, constipation, vague abdominal discomfort or edema of the lower extremities. Bilateral ureteral obstruction may cause hydrenephrosis and renal failure. Magnetic resonance imaging or computerized tomography defines the compressing fat in pelvic space enveloping the pelvic viscera. Epidural lipomatosis causing spinal cord compression is seen with chronic glucocorticoid therapy and may also occur in Cushing’s syndrome. There is no treatment except surgical removal of lipomas that cause compression of viscera or for cosmetic reasons.

References