Lipoma, Lipoblastoma, Lipoblastomatosis.

Dr Hasan Nugud
Consultant
Paediatric Surgeon
Lipomas

- Lipomas are benign tumors with a low potential for malignant degeneration.
- They are most often found in adults between 40 and 60 years of age and rarely occur in the first decade of life,
- Although generally asymptomatic, depending on its location and size, can occasionally cause abdominal pain, ileus, and small bowel volvulus.
Lipomas

- The intestinal mesentery is an extremely rare site for a deep lipoma,
- With a history of low growing, nonlobulated, soft, mobile abdominal mass, which does not penetrate into the surrounding organs, may extend from the epigastrium to the pelvic cavity,
- Occasionally they may cause constipation, distension, intermittent abdominal pain, and small bowel volvulus due to compression.
Lipomas

- Epigastric distension, episodes of abdominal distension and constipation, transient crampy abdominal pain with bile stained vomiting,
- Painless soft tissue mass with smooth contours filling the pelvis and lower abdomen,
- Rectal examination findings, perirectal fullness.
Lipomas

- Roentgenographic findings – a well demarcated radiolucent area, gasless pelvis, causing intestinal obstruction with dilated intestinal loops and air fluid levels,
- Abdominal US reveals a well capsulated, unilocular, homogenous mass,
- CT – detailed information about the fatty nature of the tumor,
- Angiograph and colored Doppler US show that the tumor is avascular,
- Alpha Feto Proteins and Beta Human Chorion Gonadotropin levels are within normal ranges.
Lipoma

- Differential diagnosis – Lipoma, Lipoblastoma, lymphangioma, lymphangiolipoma, should all be considered,
- Lipoblastoma is a benign tumor of immature cells, localized in the extremities in 60% of cases,
- Lymphangioma, is easily differentiated by it’s marked multiseptations and cystic appearance,
- Lymphangiolipoma – cystic organisation inside the tumor on US and CT.
Lipoma

- Treatment – Laparotomy, Surgical excision,
- Soft yellow mass surrounded by a thin capsule originating from the ileal mesentery,
- The recurrence rate of all lipomas is less than 5%, and usually due to incomplete excision.
- Mesenteric lipomas though they are rare, they should be considered in the differential diagnosis of patients with a soft, smooth, painless/crampy abdominal pain, abdominal masses.
Lipomas

Abdominal Lipoma
Lipoblastoma

- Adipose tissue tumors,
- Of benign nature, making the designation “blastoma”. (Whiches is usually reserved for malignant tumors), confusing, as there are no reports of metastases,
- Accounts for 6% of soft tissue tumors in the pediatric population,
- May more accurately be described as “Infantile Lipoma”.
Lipoblastoma

“Infantile lipoma” is an accurate description as it addresses 4 of its main features:

1. Early childhood occurrence,
2. Benign nature,
3. Cellular composition of mainly mature adipocytes,
4. And an ability to differentiate into a simple lipoma,

“Infiltrating infantile lipoma” would replace the lipoblastomatosis designation.
Lipoblastoma

Also described as “Mesenchymal blastoma” due to findings that the tumor is composed of primitive cells that can differentiate into mature connective tissue,

Other designations in the literature for lipoblastoma are, (Embryonal lipoma, Benign adipocytic tumor of childhood, Benign lipoblastoma, Fetal lipoma and others).

88% of cases occur before the age of 3, and 40% before the first year of life,
Lipoblastoma & Lipoblastomatosis

Therefore, lipoblastomas are uncommon, benign mesenchymal tumors that occur almost exclusively in infancy and early childhood,

It is infiltrating form is known as lipoblastomatosis,

Diagnosis after the age of 5 years is unusual,

The most common presentation is steadily growing mass, slightly more in a male than a female, with symptoms related to the location and size of the tumor.
Lipoblastoma & Lipoblastomatosis

- The site of origin is most often in the limbs then the trunk, retroperitoneum, neck, inguinal, and perineum,
- The echogenicity and homogeneity were assessed by US studies,
- The density and contrast enhancement of the lesion were assessed by CT-scan studies,
- The signal intensity and enhancement pattern of the lesion were assessed on MR images,
- The pathology will finalize the diagnosis.
Pathology revealed macroscopic and microscopic features were similar demonstrating characteristic, lobulated soft-tissue masses with an admixture of mature fat cells (adipocytes) and their immature precursors (lipoblasts), without cytological atypia, in varying proportions within a myxoid stroma, the lobules separated by fibrous septa.
Lipoblastoma & Lipoblastomatosis

- Macroscopically, lipoblastoma is lobulated and light yellow or creamy in color with mottled pink areas, while lipoblastomatosis lacks a capsule and shows infiltrative growth pattern.

- Histologically, the lesions are composed of monovacuolated and multivacuolated lipoblasts, mesenchymal cells, a plexiform capillary network, myxoid stroma, and mature adipocytes organized in lobules separated by fibrous septa.
Lipomas
Lipoblastoma & Lipoblastomatosis

- The most important differential diagnosis is Myxoid Liposarcoma, which may have clinical and radiological presentation, and which may resemble lipoblastoma histologically, although liposarcoma is extremely rare in young children.
- The age of the patient is therefore the most usual distinction as there are no known imaging findings which separate these two entities.
Lipoblastoma & Lipoblastomatosis

- **Terratomas** are common in young children, and may occur in the same locations as lipoblastoma, including the retroperitoneum and neck.

- Terratomas often contain readily detectable calcification or ossification, which is not a feature of lipoblastoma, but the two tumors may otherwise be difficult to distinguish.

- **Involuting haemangiomas** may include small amount of fat, but have a characteristic clinical history.
Lipoblastoma & Lipoblastomatosis

- The distinction between lipoblastoma and lipoblastomatosis is based on whether the lesion is localised or diffuse, rather than on microscopic or histopathological features,
- Precise locations were, greater omentum, lesser omentum, cervical soft tissue, forarm, upperarm, mediastinum and lumbar soft tissue,
Lipoblastoma & Lipoblastomatosis

- Treatment is surgical excision,
- Although local recurrence occurs following surgery in up to 20% of patients, maturation into lipoma, and spontaneous resolution may occur,
- Metastasis has not been reported.
Conclusion :-

In infancy and early childhood, the identification of a tumor composed mostly of fat should suggest the diagnosis of lipoblastoma,

The diagnosis of lipoblastomatosis is made at histological examination, but the possibility should be raised by the finding of infiltrative growth pattern on imaging studies.