

Vascular Tumors and Malformations

Perinatal Management

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Vascular Lesion Management

We will discuss both

- Diagnostic Options
- Therapeutic Options



Vascular Lesion Management

Diagnostic Options

Congenital Vascular Neoplasms

CONGENITAL HEMANGIOMA
KAPOSIFORM HEMANGIOENDOTHELIOMA*
TUFTED ANGIOMA*

Congenital Vascular Malformations

AVM/AVF
LYMPHATIC MALFORMATION
VENOUS MALFORMATION
VENOCAPILLARY MALFORMATION



Vascular Lesion Management

Diagnostic Options

Congenital Vascular Neoplasms

CONGENITAL HEMANGIOMA
KAPOSIFORM HEMANGIOENDOTHELIOMA*

Congenital Vascular Malformations

AVM/AVF
LYMPHATIC MALFORMATION

These are the diagnostic options for an imager in the perinatal period

Vascular Lesion Management

Therapeutic Options

Why treat?

Location: airway, compartment syndrome

Shunting/heart failure

Shunting/venous hypertension/ischemia

Consumptive coagulopathy

Hypothyroidism

Cosmetic, including ulceration/bleeding



Vascular Lesion Management

Therapeutic Options

Medical therapy

Steroids

Beta blockers

Antiangiogenics

Chemotherapy

Endovascular therapy (embolization)/sclerotherapy

Surgery

Tincture of Time



Vascular Lesion Management

Diagnostic Options

Congenital Vascular Neoplasms

CONGENITAL HEMANGIOMA

KAPOSIFORM HEMANGIOENDOTHELIOMA*



Vascular Lesion Management

Therapeutic Options

HEMANGIOMA

Glut 1 negative

- RICH: present at birth, involutes by 12-14 months of age
- NICH: present at birth, no regression

Glut 1 positive

- Common Infantile: appears in infancy, proliferative/degenerative
- Benign Neonatal Hemangiomatosis
- Disseminated NH
- PHACES



Vascular Lesion Management

Therapeutic Options

HEMANGIOMA

Glut 1 negative

CONSERVATIVE Treat ulcerations with local wound care
STEROIDS
if high output symptoms: EMBOLIZE or EXCISE

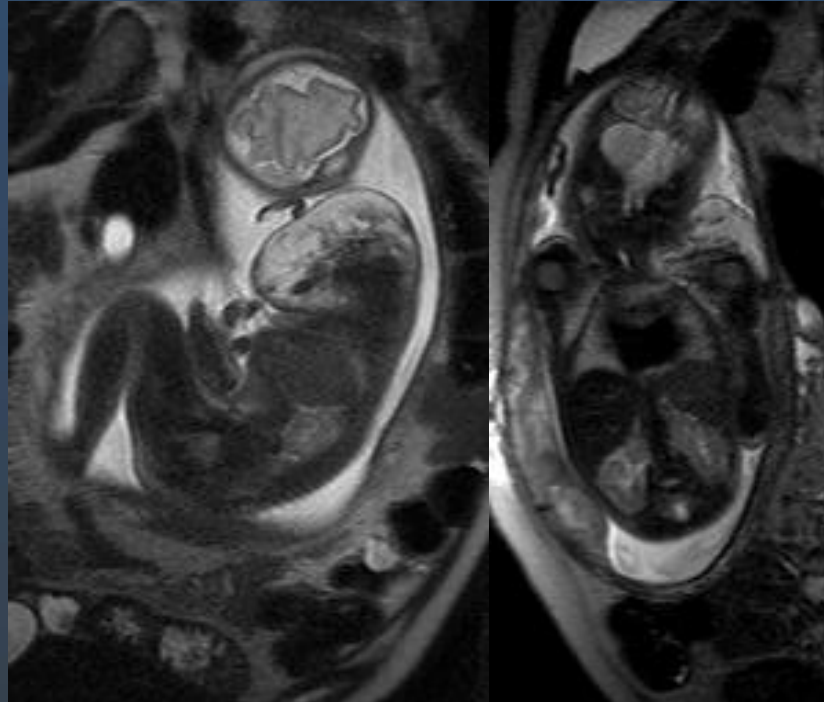
Glut 1 positive

CONSERVATIVE
PROPRANOLOL
STEROIDS
THYROXINE as necessary
surgery, laser, cryoablation, chemotherapy if desperate

Vascular Lesion Management

Therapeutic Options

CONGENITAL HEMANGIOMA



Vascular Lesion Management

Therapeutic Options

CONGENITAL HEMANGIOMA



Vascular Lesion Management

Therapeutic Options

LIVER LESIONS

Lesions can be called solitary hemangioma, diffuse hemangiomatosis, hemangioendothelioma, or hepatic vascular malformation with capillary proliferation.

CONFUSING



Vascular Lesion Management

Therapeutic Options

LIVER LESIONS

BOSTON group:

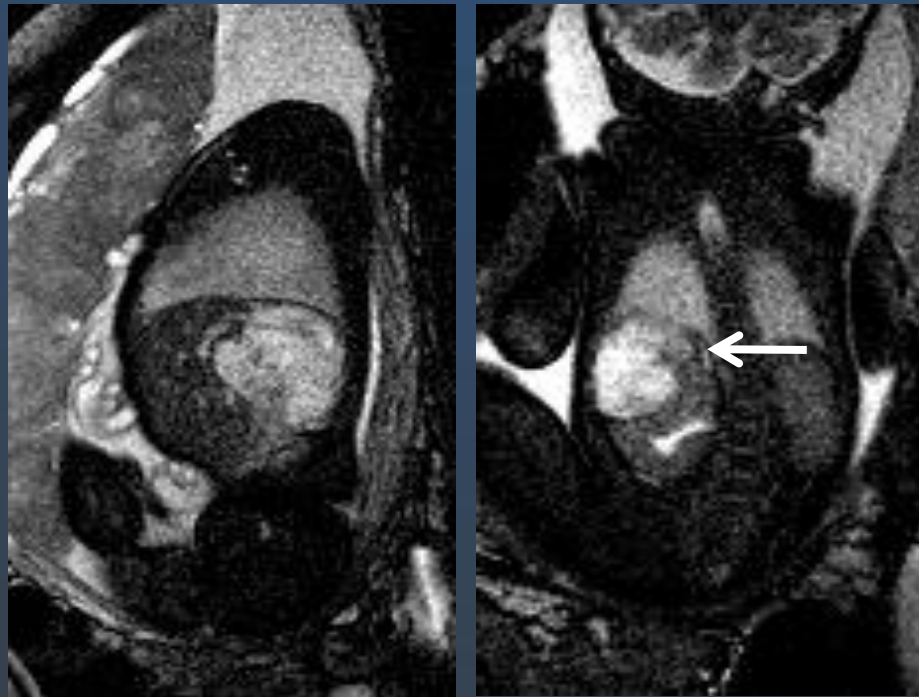
- Focal
 - Behaves like a RI Congenital Hemangioma (Glut 1 -)
 - Usually asymptomatic; monitor for shunting
- Multifocal or Diffuse
 - Glut 1 +, behave like Infantile Hemangioma
 - Multifocal: AV or PV shunting *HO Failure*
 - Diffuse: Abd Compartment Syndrome, hypothyroid *LO Failure*



Vascular Lesion Management

Therapeutic Options

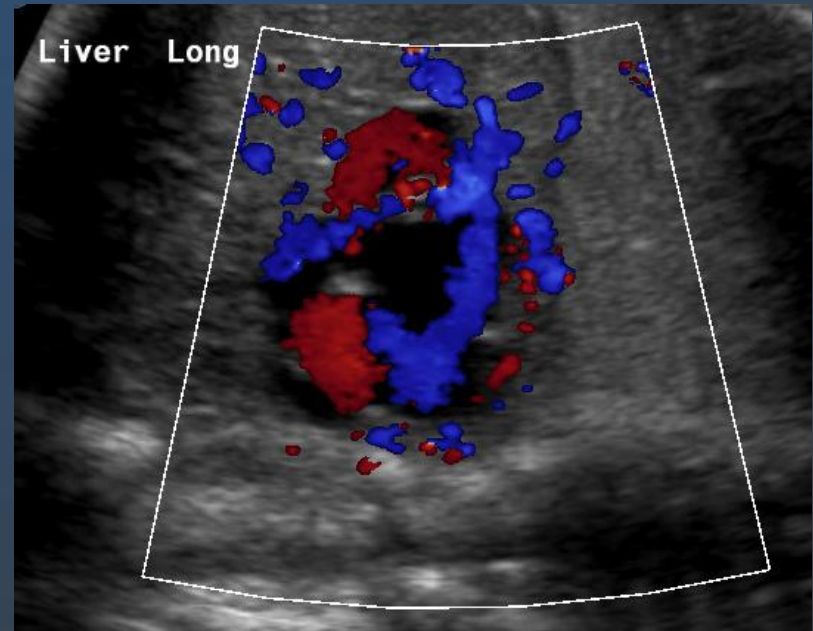
FOCAL HEMANGIOMA



Vascular Lesion Management

Therapeutic Options

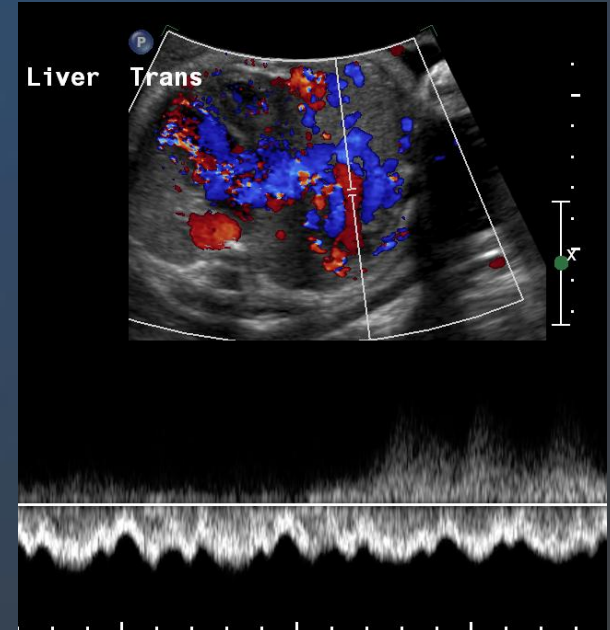
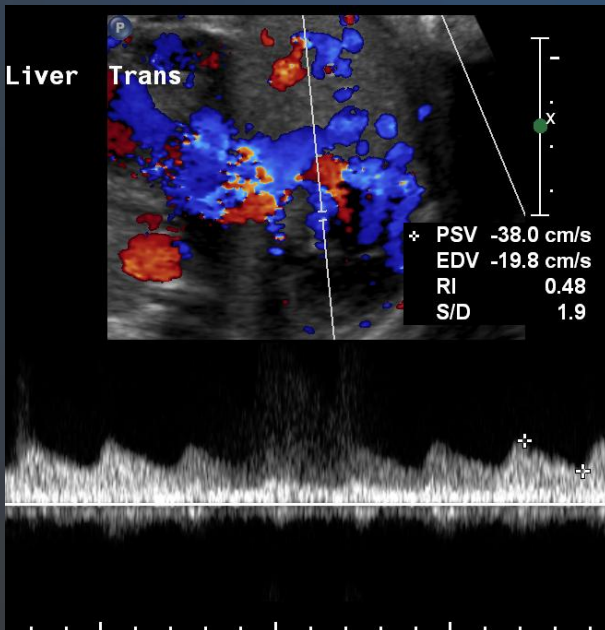
FOCAL HEMANGIOMA



Vascular Lesion Management

Therapeutic Options

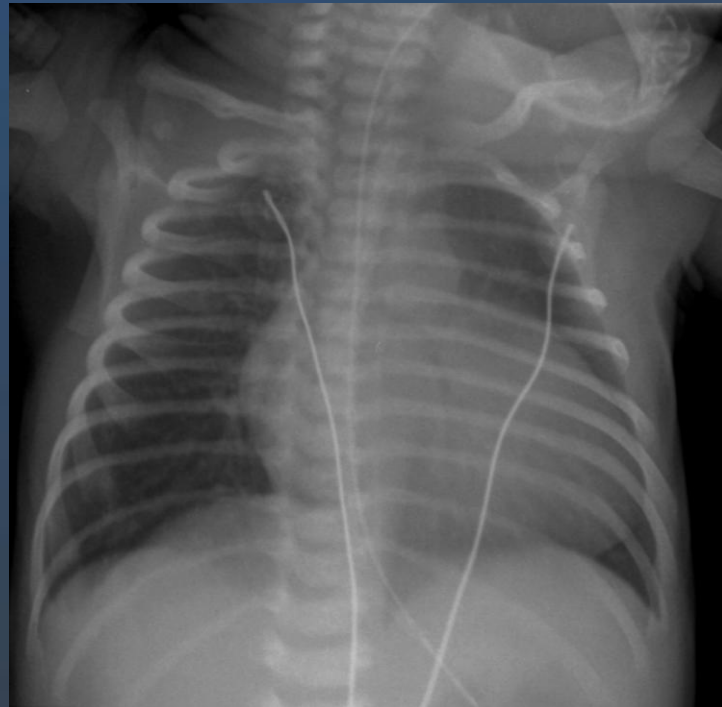
FOCAL HEMANGIOMA



Vascular Lesion Management

Therapeutic Options

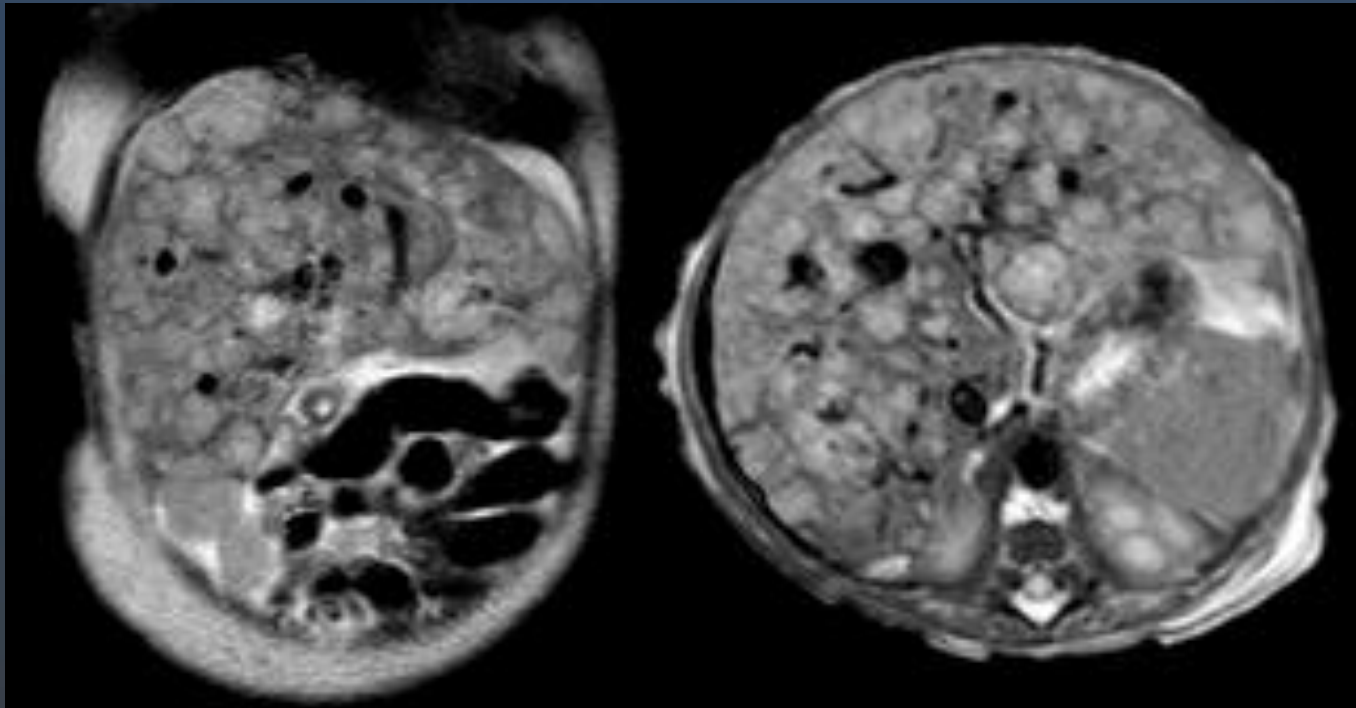
FOCAL HEMANGIOMA



Vascular Lesion Management

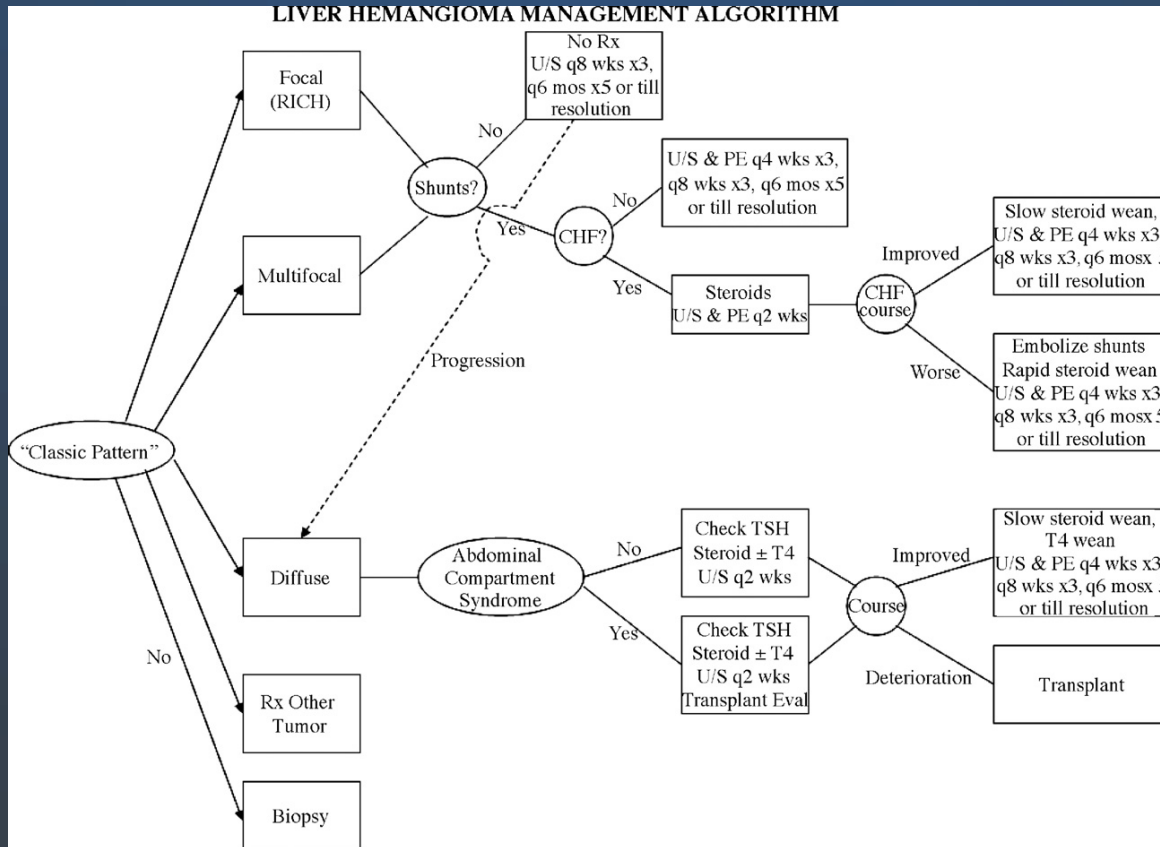
Therapeutic Options

DIFFUSE HEMANGIOMA



Vascular Lesion Management

Therapeutic Options



Vascular Lesion Management

Therapeutic Options

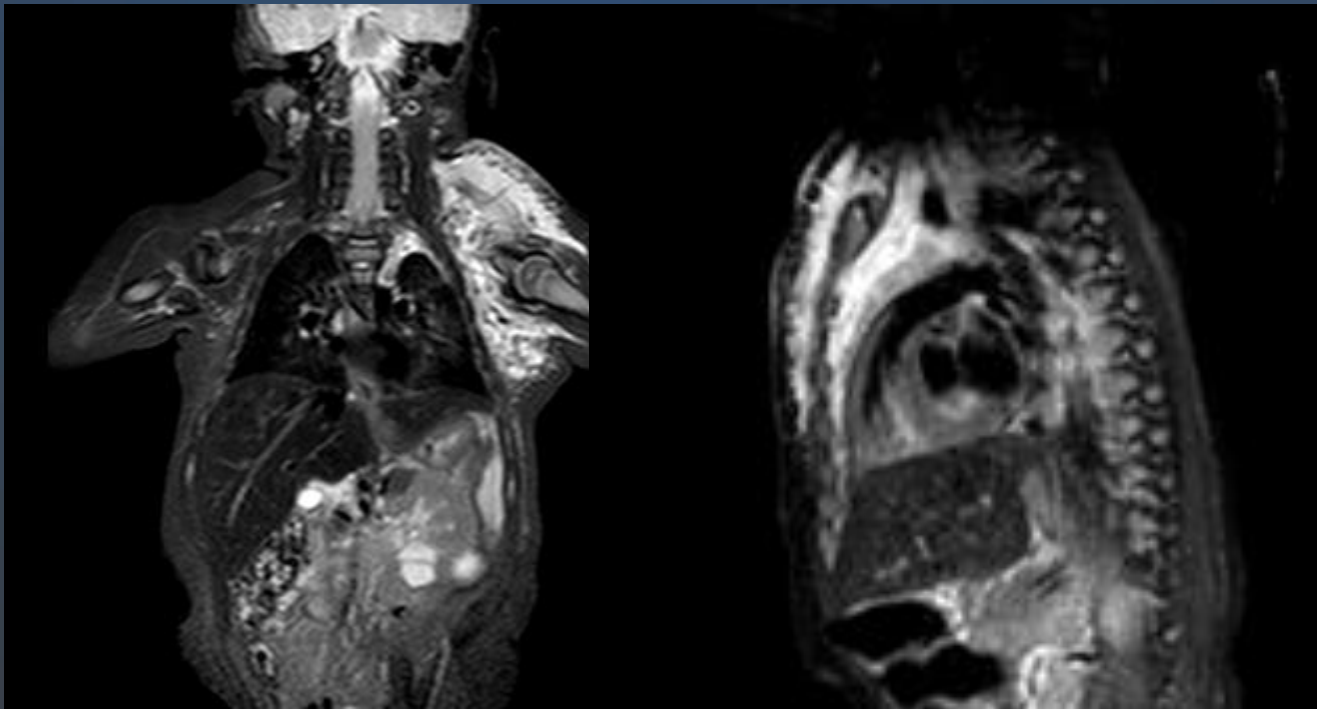
CONGENITAL HEMANGIOMA



Vascular Lesion Management

Therapeutic Options

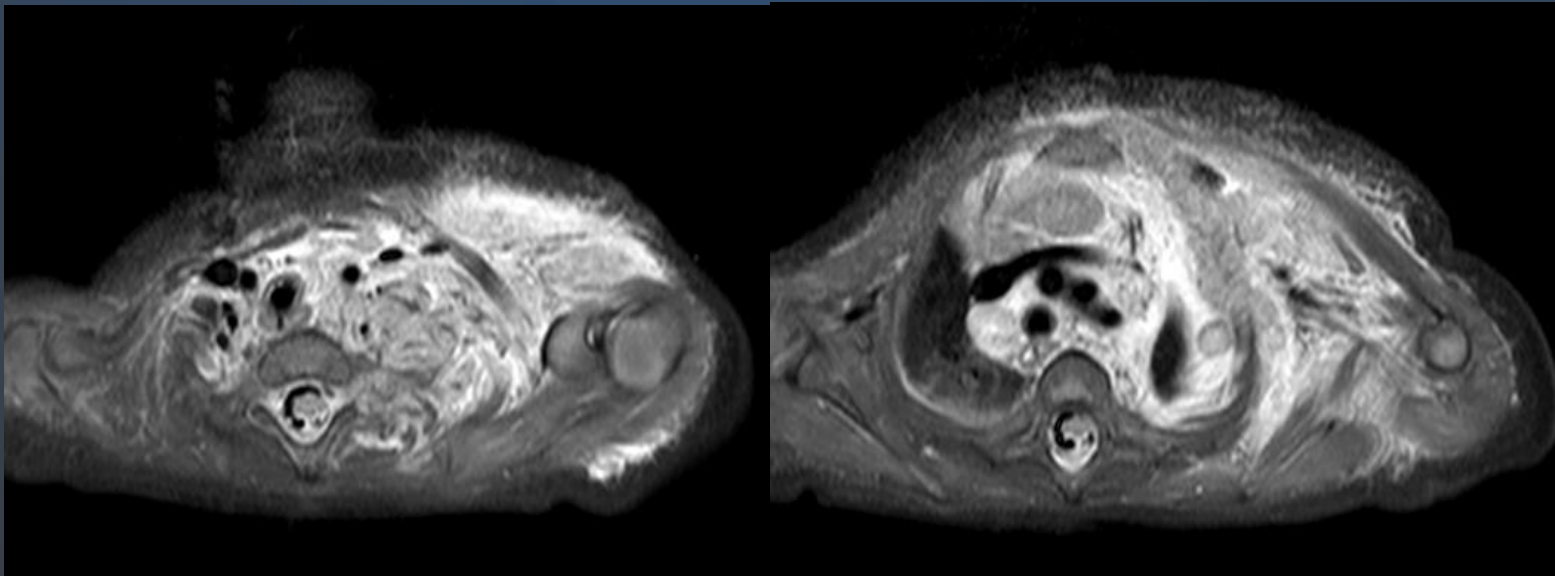
KAPOSIFORM HEMANGIOENDOTHELIOMA



Vascular Lesion Management

Therapeutic Options

KAPOSIFORM HEMANGIOENDOTHELIOMA



Vascular Lesion Management

Therapeutic Options

KAPOSIFORM HEMANGIOENDOTHELIOMA

- **Systemic corticosteroids**
- **Alpha interferon**
- **AntiAngiogenics**
- **Multimodal intervention**
- **Surgery:** not generally first-line because of infiltration



Vascular Lesion Management

Diagnostic Options

Congenital Vascular Neoplasms

CONGENITAL HEMANGIOMA
KAPOSIFORM HEMANGIOENDOTHELIOMA*

Congenital Vascular Malformations

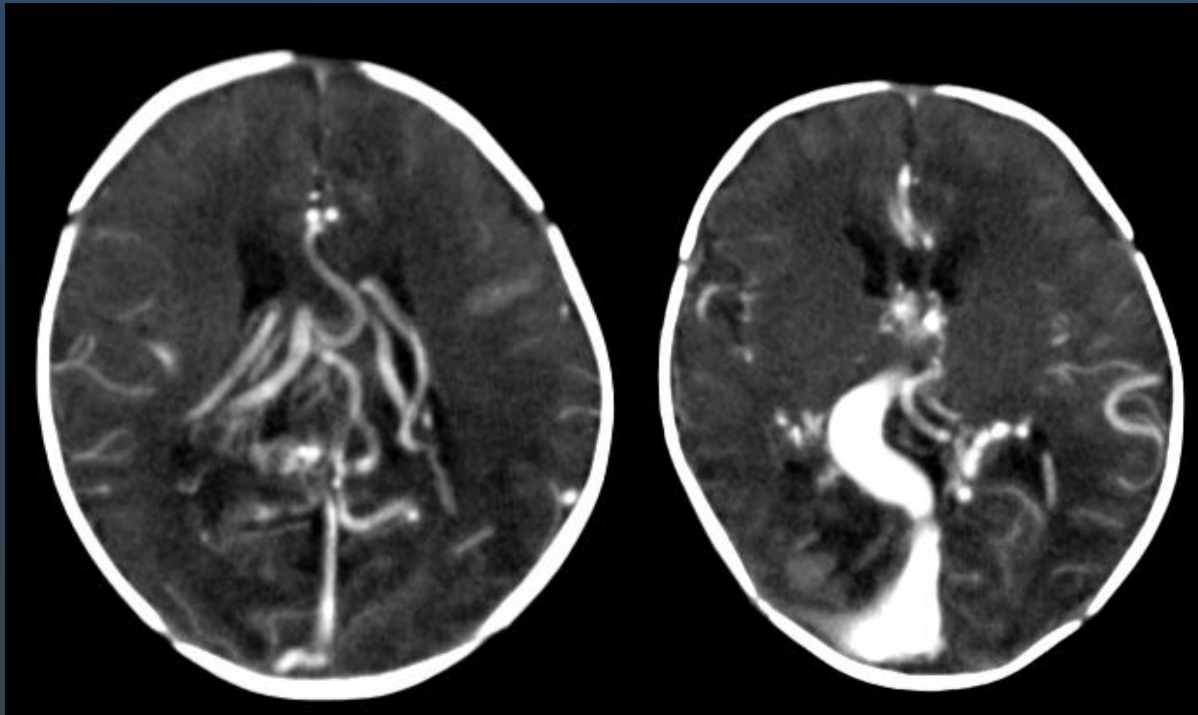
AVM/AVF
LYMPHATIC MALFORMATION



Vascular Lesion Management

Therapeutic Options

AVM/AVF



Vascular Lesion Management

Therapeutic Options

AVM/AVF



Vascular Lesion Management

Therapeutic Options

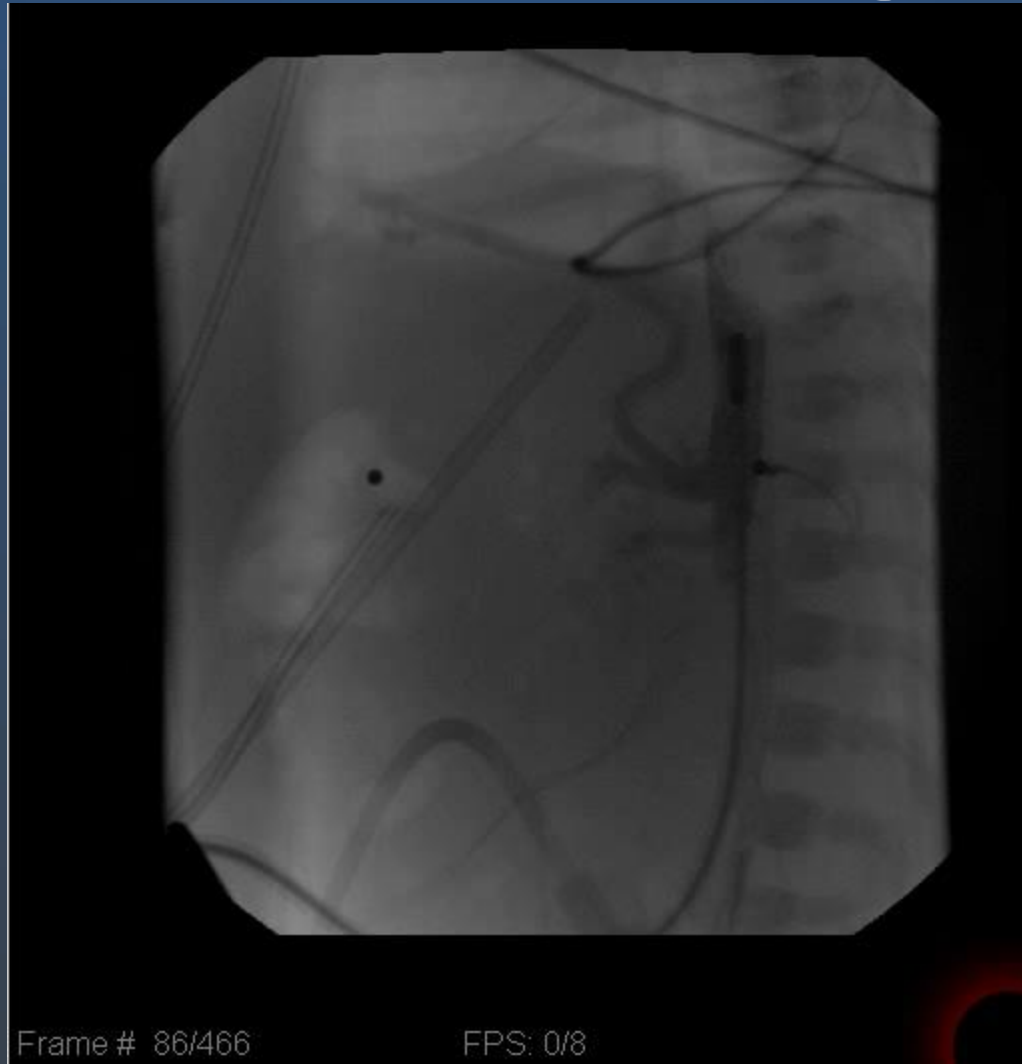
PORTOSYSTEMIC FISTULA

Congenital arterioportal fistulae

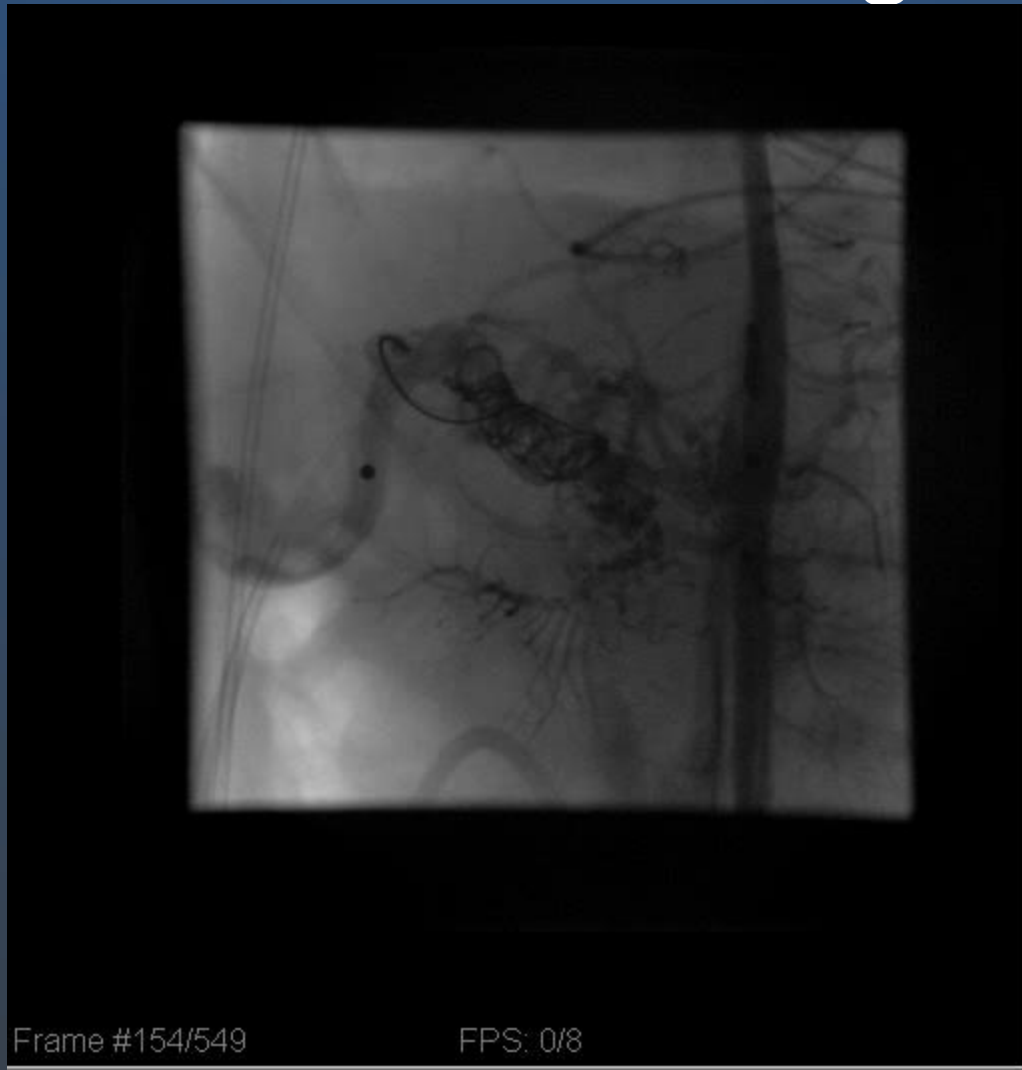
- Present as neonates with FTT and abdominal distension from splenomegaly, +/- GI bleeding
- enlarged hepatic artery with dilation of the PV at the fistula, pulsatile hepatofugal flow in PV
- Treated angiographically with coil/particle embolization



Vascular Lesion Management



Vascular Lesion Management



Vascular Lesion Management

Therapeutic Options

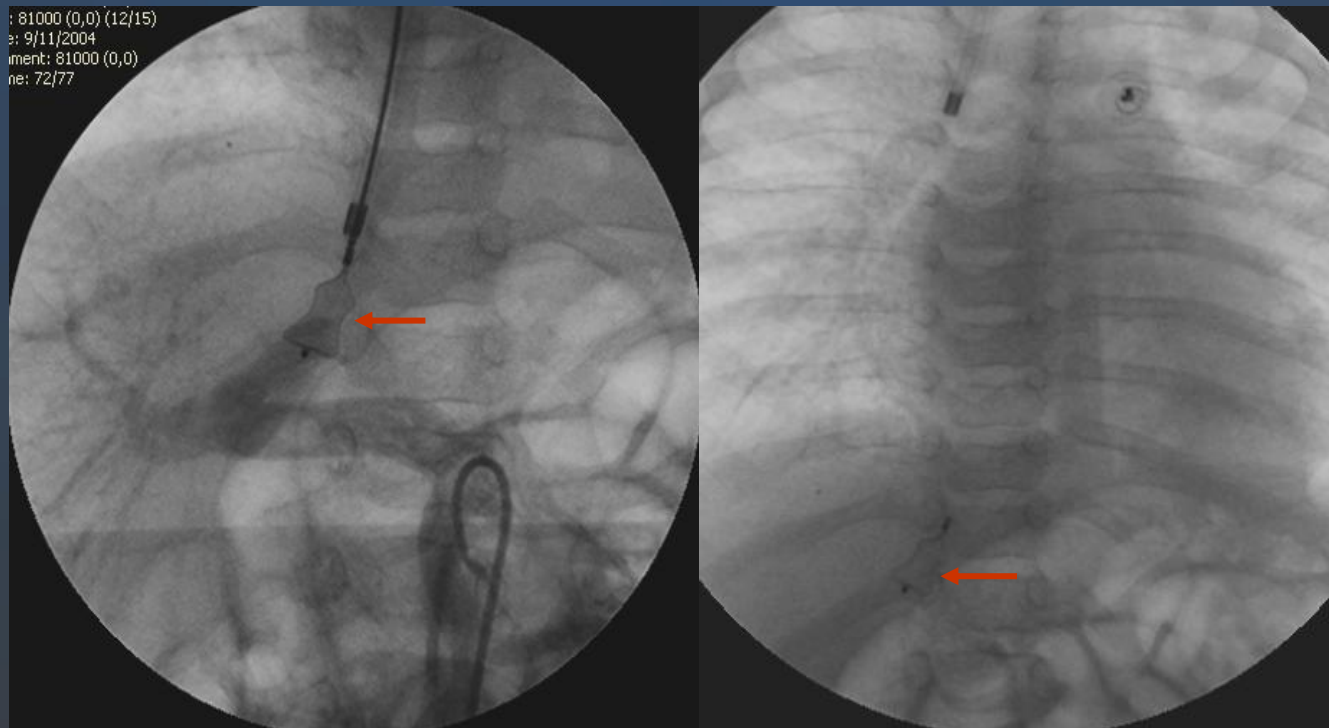
Patent Ductus Venosus



Vascular Lesion Management

Therapeutic Options

Patent Ductus Venosus



Vascular Lesion Management

Therapeutic Options

LYMPHATIC MALFORMATIONS

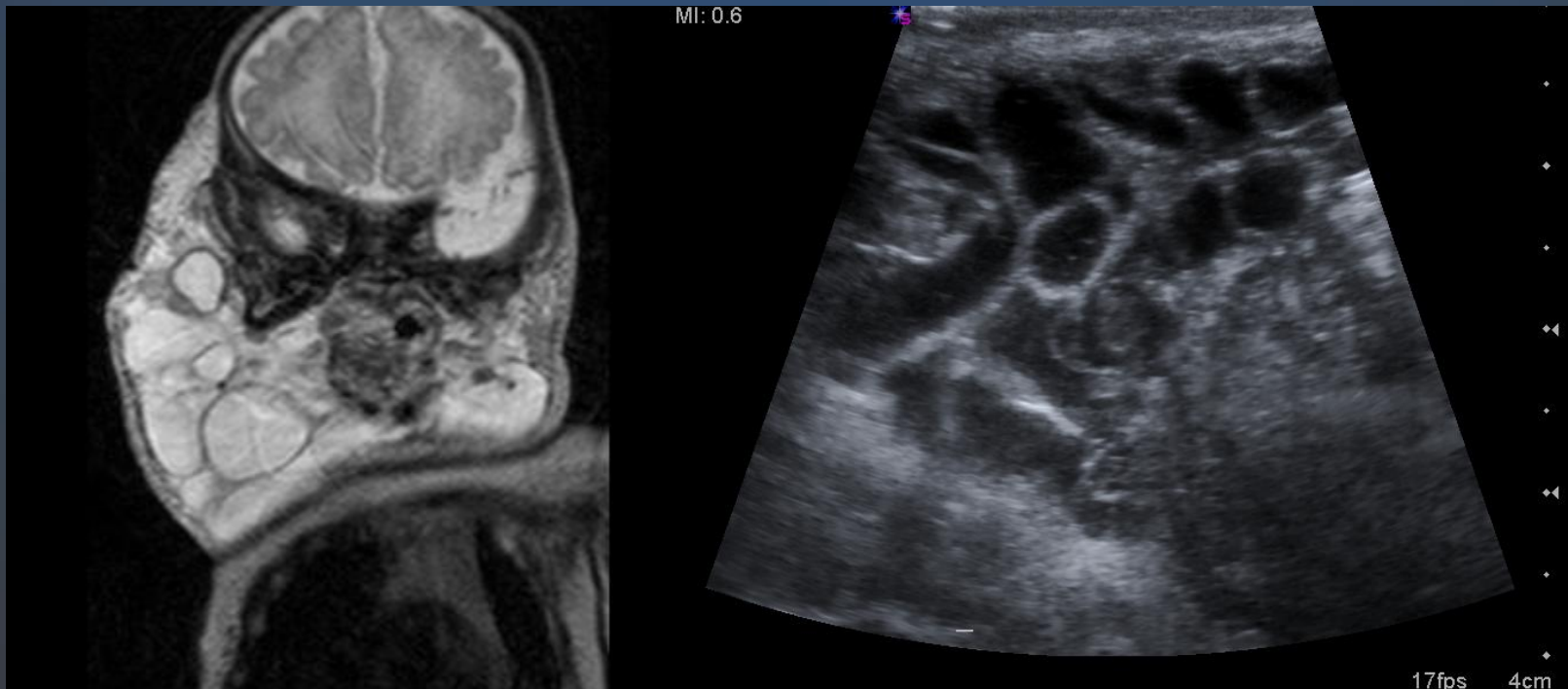
Lesions that require treatment for location typically get a combination of

- Surgery (debulking)
- Intralesional sclerotherapy with
 - Doxycycline
 - Bleomycin
 - OK432
 - STS+ (EtOH or doxycycline)

Vascular Lesion Management

Therapeutic Options

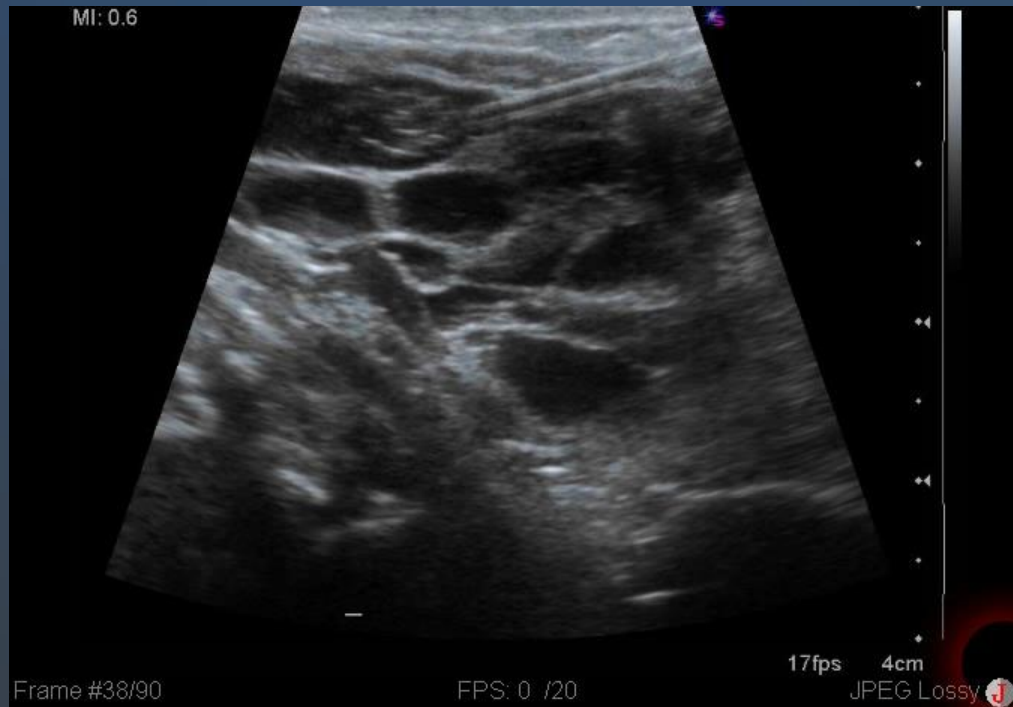
LYMPHATIC MALFORMATIONS



Vascular Lesion Management

Therapeutic Options

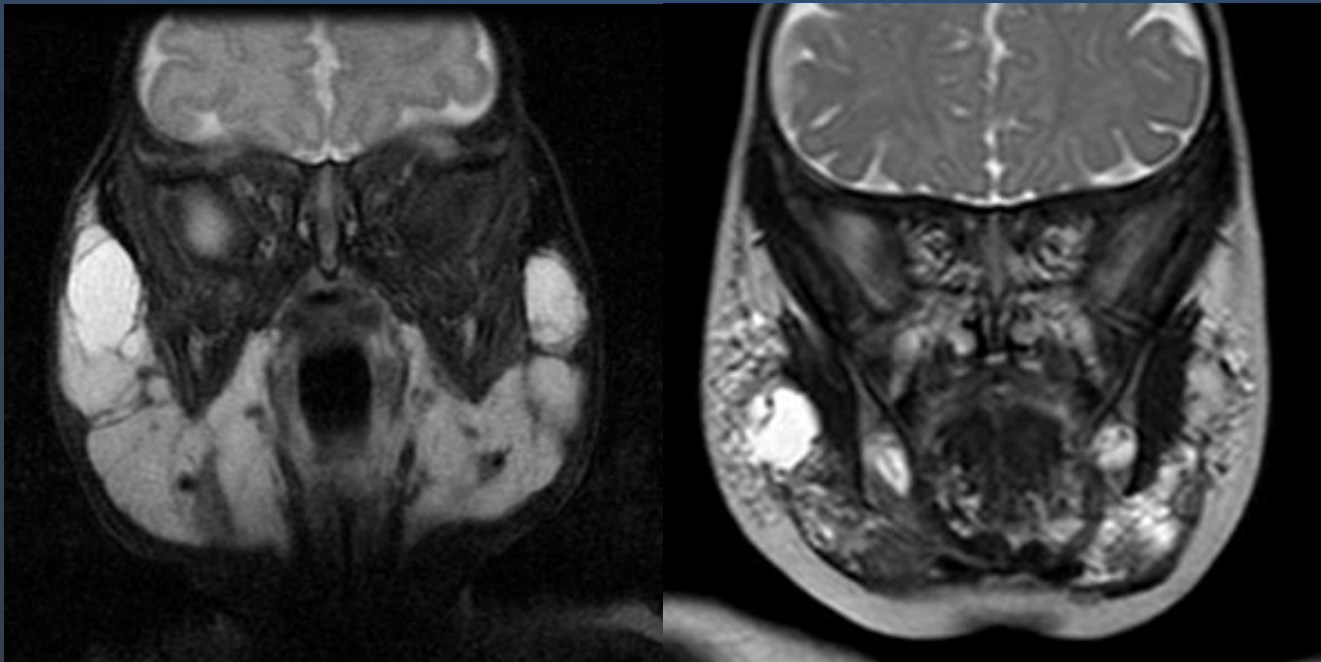
LYMPHATIC MALFORMATIONS



Vascular Lesion Management

Therapeutic Options

LYMPHATIC MALFORMATIONS



Vascular Lesion Management

Therapeutic Options

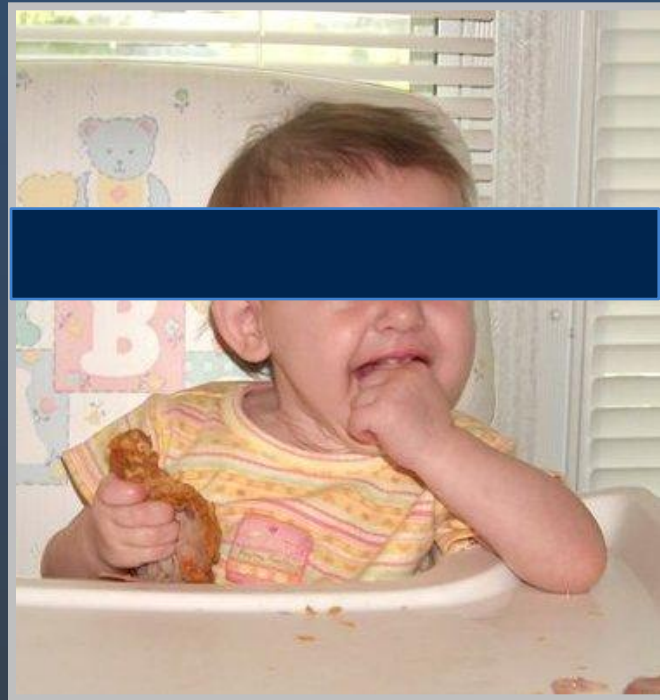
LYMPHATIC MALFORMATIONS



Vascular Lesion Management

Therapeutic Options

LYMPHATIC MALFORMATIONS



Vascular Lesion Management

Diagnostic with Therapeutic Options

Congenital Vascular Neoplasms

CONGENITAL HEMANGIOMA

Glut 1 - : Nothing, or steroids

Glut 1+ : Nothing, or propranolol

KAPOSIFORM HEMANGIOENDOTHELIOMA

Steroids, Multimodality therapy

Congenital Vascular Malformations

AVM/AVF

Endovascular therapy

LYMPHATIC MALFORMATION

Sclerotherapy +/- surgery



Vascular Lesion Management

SELECTED REFERENCES

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