Paediatric Tumors

Liver Mass : Suspected Hepatoblastoma

CT SCAN OF CHEST, ABDOMEN AND PELVIS:

Triphasic CT Scan for the liver and Portal Venous phase scan for chest, abdomen and pelvis has been performed
Indication : Suspected liver mass
History:
Age :
Ser AFP:
Prior Treatment :

Comparison:

Liver tumor:
Mass :
Focality : one or more (F0/F1)
Presence of calcifications: yes /no
Enhancement characteristics :
- Arterial phase
- Portal venous phase
- Equilibrium phase:

Size
Pretext stage :
(Sectors involved and sectors free (liver divided into 4 sectors- left lateral –II/III, left medial- IV, right anterior- V/VIII and right posterior VI/VII) :

Caudate lobe- involved or not (C0/C1)

Intra tumoral Bleed or rupture (H0/H1)

IVC
RHV
MHV
LHV
Hepatic veins : Vo/V1/V2/V3

PV Main
Right branch
Left Branch

Portal vein : P0/P1/P2

Any extrahepatic extension
Infiltration of adjacent organs including diaphragm
Any omental / peritoneal nodule
Extraheptic Extension: E0/E1/E2

Ascites/peritoneal haemorrhage (H0/H1)

Nodal status (N0/N1
Periportal
Retroperitoneal

GB:
Spleen
Pancreas
Kidneys
Pelvic organs
GIT

Lungs
Pleura
Mediastinal nodes
Heart and great vessels:

Visualized Bones:

Impression :
Likely diagnosis:
PreText Stage : I II III IV
Additional factors F C V P E H N M

Note:
1. The same staging system is used after chemo and called PosText instead of PreText)
2. Even in non hepatoblastoma Liver Tumors, it is useful to describe all the above mentioned features)
3. Same reporting format to be used for MR imaging

RENAL MASS

CT SCAN OF CHEST, ABDOMEN AND PELVIS:

CT Scan for chest, abdomen and pelvis has been performed

Indication : Suspected Renal mass
Prior Treatment :
Comparison:

Primary Tumor:
Laterality:
Location in kidney
Size
Crossing midline : yes/ no

Morphology:

Any sign of rupture or tumoral bleed : Yes/No

Suspicion of perinephric spread : Yes/ No
Infiltration of adjacent organs if any
Ipsilateral Adrenal : Seen Separately /Not seen

Any obvious ureteric involvement : if seen-extent.
Status of renal Sinus/PC system : Involved /Not involved

Renal vein and IVC status:
if thrombus present : level-RV, infrahepatic, hepatic or suprahepatic IVC, right atrium
Any anomalies or variants

Renal artery : any accessory artery

Contralateral kidney

Nodes
Ascites or peritoneal haemorrhage
Any peritoneal nodules seen

Liver:
GB:
Spleen

Pancreas
Pelvic organs
GIT:

Lungs
Pleura
Mediastinal nodes
Heart and great vessels:

Visualized Bones:

Impression:
Likely Diagnosis
Nodal disease
Metastatic disease:

Neuroblastoma :

CT SCAN OF CHEST, ABDOMEN AND PELVIS:

CT Scan for chest, abdomen and pelvis has been performed
Indication : Suspected NB
Prior treatment
MIBG/PET Scan available for reference

Primary Tumor:
Site of origin
Laterality:
Size

IDRFs as per site of tumor:

Anatomic region	**Description of IDRF**
Multiple body compartments	Ipsilateral tumor extension within two body compartments (ie, neck andchest, chest and abdomen, or abdomen and pelvis)
Neck	Tumor encasing carotid artery, vertebral artery, and/or internal jugular vein Tumor extending to skull base Tumor compressing trachea
Cervico-thoracic junction	Tumor encasing brachial plexus roots Tumor encasing subclavian vessels, vertebral artery, and/or carotid artery Tumor compressing trachea
Thorax	Tumor encasing aorta and/or major branches Tumor compressing trachea and/or principal bronchi Lower mediastinal tumor infiltrating costovertebral junction between T9 and T12 vertebral levels (because of risk of injury to anterior spinal artery)
Thoraco-abdominal	Tumor encasing aorta and/or vena cava
Abdomen and pelvis	Tumor infiltrating porta hepatis and/or hepatoduodenal ligament Tumor encasing branches of superior mesenteric artery at mesenteric root Tumor encasing origin of celiac axis and/or origin of superior mesenteric artery Tumor invading one or both renal pedicles Tumor encasing aorta and/or vena cava

	Tumor encasing iliac vessels Pelvic tumor crossing sciatic notch
Intraspinal tumor extension	Intraspinal tumor extension (whatever the location) provided that more than one-third of spinal canal in axial plane is invaded, the perimedullaryleptomeningeal spaces are not visible, or the spinal cord signal intensity is abnormal
Infiltration of adjacent organs and structures	Pericardium, diaphragm, kidney, liver, duodenopancreatic block, and Mesentery

Nodal status

Liver
GB:
Spleen
Pancreas

Kidneys
Pelvic organs
GIT

Lungs
Pleura
Mediastinal nodes
Heart and great vessels:

Visualized Bones:

Retinoblastoma template

TECHNIQUE:
Multiplanar MR images of the orbits were acquired Pre and postcontrast injection. Screening MRI of the brain has also been performed.

Indication:
Prior treatment

Comparison:

FINDINGS:
Abnormal Globe:
Size- increased/decreased
Deformation- present/absent
Proptosis –present/ absent

Tumour:
Size and uni/multifocal-
Morphology-
Location-

optic disc involvement
Retinal detachment: present/absent, if present any

Intraocular haemorrhage: present absent

Choroidal invasion:
normal smooth choroidal enhancement-present/absent
If absent- focal choroidal thinning / reduced enhancement/ focal thickening

Optic nerve involvement:
If involved, length of involvement

Optic pathway- chiasma, optic tracts

Extra-scleral spread : present /absent

Other findings if any

Opposite eye: Normal/abnormal, if abnormal with tumour similar description of opposite eye.

Brain
Para/Suprasellar region:
Pineal gland:
Leptomeningeal enhancement:
Any focal brain lesion

Others:

Conclusion

References:

1. Rauschecker, A.M., Patel, C.V., Yeom, K.W. et al. High-resolution MR imaging of the orbit in patients with retinoblastoma. Radiographics. 2012; 32: 1307–1326
2. de Graaf, Pim et al. “Guidelines for imaging retinoblastoma: imaging principles and MRI standardization.” Pediatric radiology vol. 42,1 (2012): 2-14. doi:10.1007/s00247-011-2201-5