Summary and conclusion

The definitive diagnosis of most abnormalities of the brachial plexus is now obtained with imaging studies. Diagnostic questions regarding the brachial plexus arise from the occurance of symptoms consistent with brachial plexopathy or the presence of pathological lesion located in proximity to the course of the brachial plexus. Either intrinsic neural lesions or extrinsic lesions adjacent to the course of the plexus may be responsible for brachial plexus symptoms .(***Bowen et al 2004***)

Brachial plexopathies are a common diagnostic problem and imaging the brachial plexus is challenging because of its complex anatomy and wide variety of pathology that can affect it . (***Amrami &Port; 2005)*** .

A variety of imaging modalities have been used in the past for assessment of brachial plexopathies including conventional imaging technicques, cervical my elography, CT myelography , ultrasonography and magnetic resonance imaging . conventional imaging techniques can be useful in the detection of associated conditions (First rib or clavicle fractures, etc .) but they cannot visualize brachial plexus structures directly . Also computered tomography (CT) is limited in the study of the retroclavicular region because of artifacts due to the presence of the humeral heads in the slice. CT myelography exhibits very high accuracy in post traumatic brachial plexopathies but fail to reveal the post gomglionic plexus.(***Petit et al;2004***)

Ultrasound has arelatively limited role, primarily because of its limited field of view and limitations in visualizing structures, such as bone and pleural a bonormalities assoeiated with tumour invasion. Never disruption and vascular structures can be identified by askilled practitioner.US may be used in some cases for guiding precutaneous intervention but its role at this time is limited to those situation where MRI can not be performed. (***Graif et al , 2004***) .

Magnetic resonance imaging (MRI) can fully a ssess the cervical spinal cord and origin of the never root . Thanks to its multiplanarity and high contrast resolustion, it allows the direct visualization of all components of the brachial plexus from the central nerve roots to the axillary cards. The multiple imaging planes afford the capabitity to examine the roots in transverse plane and trunks and cords in coronal or sagittal planes. It also can provide definitive a ssessment of sof tissue abnormalities that might occur along the course of brachial plexus. (***Petit et al , 2004***)

MRI can detect both the extent and degree of post traumatic brachial plexopathy. Also it can differentiate brachial plexopathy due to tumour infiltration or tumour recurrence form that due to radio therapy . the cause of neurogenic thoracic outlet syndrome can also easily detected with the help of MRI , with detection of the actual affection of the nerves of the plexus . Inflammation could be easily detected by MRI.

Past operative evaluation is also of great help in detection of effictiveness of surgery and its complication .***(Todd et el , 2004 &Castillo, 2005) .***

In conclusion MRI is the imaging modality of choice in patient suspected to have brachial plexopathy because of combination of many factors. This includes the greater contrast resolution , lack of artifacts and its multiplanar imagine capability which permits accurate evaluation of the brachial pexus and any lesion affecting it, with detection of its relation to the surrounding anatomical land marks. Also it can differantiate post radiation plxopathy from tumour infiltration or tumour recurrence. In patients with thoracic out let syndrome , it can detect the effect of compression and deviation of the nerves of the brachial plexus.