INTRODUCTION

For a long time, surgery of cervical spine has been performed universally using a posterior approach. Although this type of surgery is easy, but the pathology in most instances remains at the anterior aspect of the spinal canal. Anterior exposure of the cervical spine was developed in the mid of 1950s, for anteriorly located traumatic , degenerative, neoplastic, and inflammatory lesions (*Cloward, R.B. et al 1958).* Because of the successful results reported by this approach and the development of improved instrumentation and technology to visualize the spine, the anterior exposure of cervical spine has gained a wide acceptance *(majid ,M.E. 2002).* Mostly this type of surgery is combined with an anterior inter-body fusion procedure. Cervical spinal fusion surgery is often done to prevent motion at a vertebral segment, hence decreasing pain at that site *(henry,H. 2003)* . It also helps to correct deformities, and to provide early stabilization (*Robinson,R.A. et al , 1964*). Theoretically, fusing the vertebral segments together after removing the lesion (a prolapsed disc for example) prevents the spine from falling into a collapsed deformity (Kyphosis), and also provides a shorter post-operative rehabilitation period *(henry,H. 2003).*Additionally, anterior cervical spinal fusions are also done to treat cervical instability due to vertebral body tumours, osteomyelitis, or post-traumatic sequlae. To achieve a sound spinal fusion, bone graft is used to connect two vertebral bones together. The patient's own bone will grow into the bone graft and incorporate it as its own. This process creates one continuous bone structure and eliminates motion at the fused site. A small bone is used to fuse a disc space, and a longer strut graft is used to bridge the wide corpectomy site *(Leonard Jan , et al 2002).* There are several

commonly used types of grafts, either auto graft bone [patient's own bone) which is harvested from iliac crest , or from long bones as fibular grafts, or allograft (from cadavers) as fibula, but allograft bone had been used rarely in the cervical spine until recently *(Semmons,E.H. 2002).* Another type of grafts is synthetic bone substitutes. As early as 1955, Cleveland described the use of methacrylate for spinal stabilization after disc surgery, *(Allen , K.L. 1955)* . Hampay in 1959 and Bryan in 1982 had reported acrylic fusion for cervical spinal stabilization. Bone substitutes help avoidance of using iliac bone grafts, provide immediate stabilization of the spine, and prevent the presence of another wound in the patient as that done during harvesting iliac bone graft or fibular graft *(Kazem,F. 2003).*