INTRODUCTION

Conjoined twins have been a source of fascination for both the general public and the medical profession since time immemorial. Their birth was initially viewed as an ominous sign of impending disaster. This was followed by a prolonged period through the Middle Ages and into the nineteenth century when they were regarded as freaks or monstrosities and were exhibited with substantial financial reward at circuses and sideshows. Recently, conjoined twins have attracted intense media interest, which has coincided with increasing success in their separation (*Spitz. 2005).*

Historical Highlights

The medical term 'conjoined twins', although originating in the 20th century, describes what arguably has been the best known anatomic malformation in human history – driven by its macroscopic and externally visible manifestation. The existence of cave drawings and carved and ceramic figurines of conjoined twins, as well as their occurrence in all kinds of animals, suggests that these malformations existed long before the human race finished descending from its ancestors **(***Oleszczuk and Oleszczuk .2006).*

The first well-documented case is that of the Biddenden maids born in Kent in AD 1100 who were joined at the hips and the shoulders. They lived together for 34 years. When Mary fell ill and died, Eliza was advised to be separated but absolutely refused saying, 'as we came together we will also go together'. She died 6 h later**.**

The first successful separation of conjoined twins took place in 1689. The surgeon, Johannes Fatio, separated omphalopagus twins in

Basel, Switzerland. The most celebrated pair of conjoined twins was Chang and Eng, born on a river boat in Siam in 1911. They were joined at the xiphisternum by a short bank that stretched so they were eventually able to stand side-by-side (*Spitz .2005).*

Although 2D sonography is the primary modality for diagnosing and evaluating conjoined twins, Color Doppler and 3D sonography can be sometimes provide addional informations that assist in clinical management of these twins. More recently, 3D ultrasound imaging has been advocated as a new tool to demonstrate the extent of the fusion in conjoined twins, providing images that are both easily understood by parents and, more importantly, provide detailed information for improved counseling regarding post-natal surgical interventions*(Musoles,et al, 2002).*

Fetal Echocardiography and magnetic resonance imaging (MRI) have been performed prenataly but once the decision has been made to proceed with the pregnancy, these investigations can be carried out with greater accuracy after delivery, and so detailed scanning will define with reasonable accuracy the extent of the conjoined area and provide an assessment of which viscera are shared. . Delivery must always done by caesarean section at 36–38 weeks' gestation .MDCT is the best overall modality for evaluating conjoined twins in the postnatal setting. Contrast enhancement is mandatory to assess the vascular anatomy **(***McHugh, et al. 2006).*

MRI has an increasing role in the postnatal evaluation of conjoined twins. MR has the capability of producing 3D reconstructed images in any direction with much improved resolution and tissue characterization than 3D US.

Epidemiology:

The frequency of conjoined twins is approximately 1 in 50,000 gestations, but many die in utero, are terminated or stillborn. The true incidence is estimated to be around 1 in 250,000 live births. Like all monozygotic twins, all conjoined twins have the same sex. There is a distinct female predominance with a ratio of 3:1. Conjoined twinning is a random event, unrelated to heredity, maternal age or parity *(McHugh et al. 2006).*

Aim of Essay:

Is to highlight the imaging strategies in diagnosis and decision making in conjoined twins.

Figure 1 Mary and Eliza Chulkhurst were born joined at the hip (pygopagus), in 1100 in Biddenden, England. As well as them being pygopagii, all illustrations of these twins show joining at the level of the shoulder, a phenomenon that was not described in other conjoined twins **(Oleszczuk and Oleszczuk . 2006)**.