ROLE OF MRI IN EVALUATION OF INFLAMMATORY DISEASES OF PARA-NASAL SINUSES

Essay

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By

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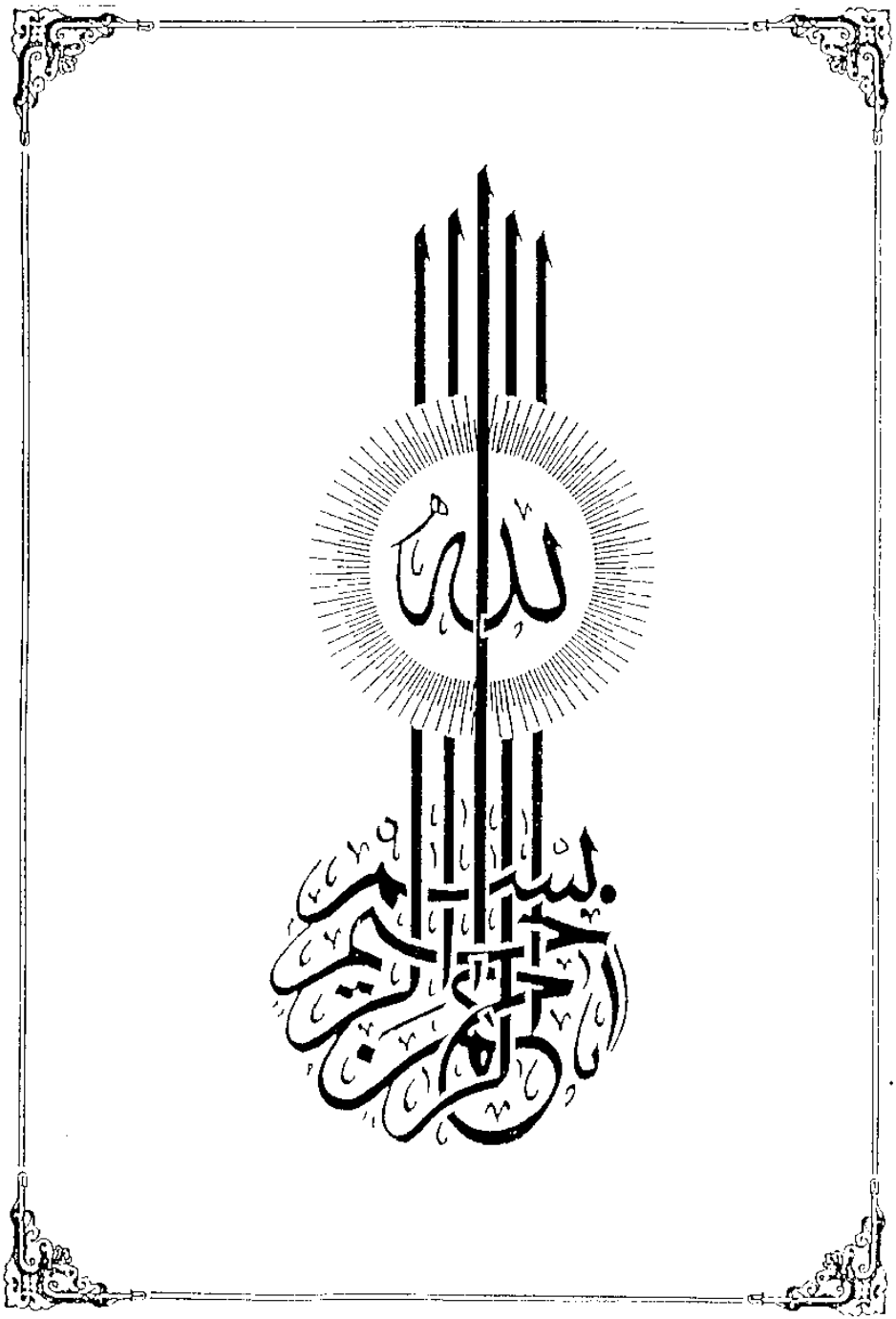
«بِسم اللَّه الرَّحْمنِ الرَّحِيم»

﴿... قالَ رَبِّ اشْرَحْ لِي صَدرِي
ويسِّرْ لِي أَمرِي واحلُلْ عُقدَةً مِن لِسانِي
يَفقَهوا قَولِي...﴾

«صَدَقَ اللَّه العَظِيمْ»
«سورة طه آيه ٢٥ - ٢٧»



To...

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INTRODUCTION AND AIM OF THE WORK

Para-nasal sinuses are air filled cavities surrounded by margins of bone.

The main pathological processes affecting the para-nasal sinuses are inflammatory and neoplastic.

Inflammatory sinus disorders can take the form of acute or chronic sinusitis.

M.R.I playing an increasingley prominent role in assessing sinus diseases due to its inherent high soft tissue contrast resolution as well as its multiplanar capability. It can provid information that reflect the actual composition and structure of tissue being studied.

The aim of work of this study is to determine MRI diagnostic criteria of inflammatory para-nasal sinuses lesion and to assess its effectiveness and possible limitation in diagnosis.

Anatomy of para-nasal sinuses

GROSS ANATOMY OF PARA-NASAL SINUSES

The anatomic description of the para-nasal sinuses is difficult owing to the great variation within individuals and the inconsistency of the terminology used to describe these areas, *(Rice, Schaefer, l992; Schechtman et al., l993).*

The para-nasal sinuses are pairs of air filled cavities within the facial bones lined with mucous membrane and communicating with the upper respiratory tract.

There are four pairs of sinuses:
Ethmoid, frontal, maxillary and sphenoid sinuses.

Ethmoid sinuses:

The ethmoid sinus has the greatest variation and it is found at birth to be fluid filled and difficult to recognize.

As the ethmoid sinus enlarges and pneumatizes, the resultant overgrowth into the frontal bone result in the frontal sinus.

By the 12th year, the ethmoids are nearly of adult size, *(Shechtman et al., 1993).*

The ethmoid bone is a symmetric midline bone (Fig. 1), interposed between the orbits laterally, the frontal bone anteriorly, the sphenoid posteriorly, the anterior cranial fossa above and the nasal cavity below, *(Mattox et al., 1985).*

The adult ethmoid capsule forms a pyramid with its widest base located posteriorly (Fig. 2). The sinus measures 4 to 5 cm anteroposterior, 2.5 cm in height and 0.5 cm wide anteriorly and 1.5 cm posteriorly, *(Shechtman et al., 1993).*

The fovea ethmoidalis represent, the roof of the sinus and extend to an average 2 to 3 mm above the more medial cribriform plate, *(Rice and Schaefer, 1992).*

The lamina papyracea, located in the medial orbital wall, is the most lateral boundary and also the most constant part of ethmoid bone.

The number of air cells varies greatly, ranging from 4-100, *(Shechtman et al., 1993).*