بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

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SURGICAL MANAGEMENT OF LUMBAR SPONDYLOLISTHESIS

THESIS
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الاستاذ الدكتور / يسرى الهوارى

اقدم لسيادتكم هذا العمل المتواضع والذى ما كان ليرى النور لولا مساعدتكم المخلصة المستمرة. راجياً من الله ان ينال رضاكم

ابنتكم

ولاء الاسيوطى

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Walaa El Assiuty

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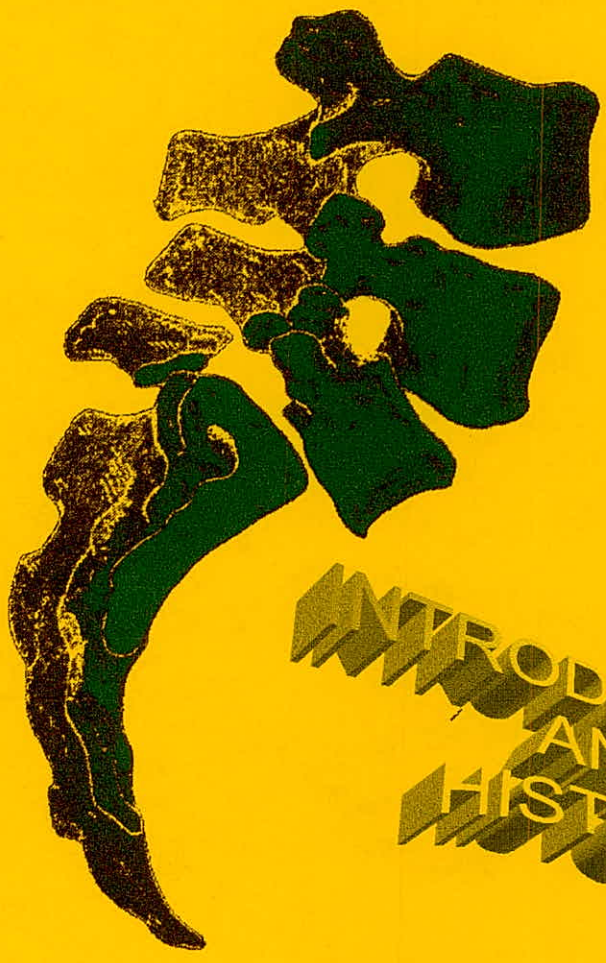

INTRODUCTION AND HISTORY

Introduction

Spondylolisthesis was described in 1957 by Taillard as a "forward slippage of the vertebral body together with its pedicles, transverse processes, and upper articular processes engendered by a break in the continuity or an elongation of the pars interarticularis." *Nazarian; 1992* described a better definition "slippage of a portion of the spine on the underlying portion." We need to remember that the spine that is slipping carries the entire trunk along with it. Few topics in spinal pathology have such varied clinical and anatomic aspects as spondylolisthesis. There are few pathologic conditions of the spine for which there are so many controversial therapeutic procedures.

There are many types of spondylolisthesis. There is still considerable discussion about what classification system is most useful to the surgeon. Spondylolisthesis is a common condition but there is a wide range of pathology. There seems to be fewer consensuses about how to manage spondylolisthesis than is the case for virtually any other diagnosis within spinal surgery. The great numbers of procedures and treatments that have been proposed have their advantages and disadvantages. The correct treatment concepts are dependent on the type and degree of spondylolisthesis.

(DeWald; 1997)

Due to the wide differences in various types and grades of the condition of spondylolisthesis, this study is conducted on the most common type of spondylolisthesis, which is the adult isthmic lytic type, and also on the low grade slips, which we face most. We will review the literature for all the aspects of this particular condition starting from its historical background, applied anatomy and biomechanics, etiology and pathological changes, clinical and radiological assessment, then the various concepts of treatment.

Aim of the Work

The aim from this work includes two parts. First to review the literature for the different aspects concerning adult lytic low grad spondylolisthesis. Second, to evaluate the results obtained after treating those patients under the protocole of this study, and assess the outcome of those patients.

We prospectively studied 50 adult patients with low-grade lytic spondylolisthesis. Patients included are managed surgically under a standard protocol of management, after failure of conservative treatment for at least six months. Surgically all the patients underwent Gill's decompression, in situ posterolateral fusion, and stabilization with a rod-screw pedicular fixation system. Patients were followed up for a minimum of one year.

Historical Review

Spondylolysis has been recognized in human material dating from as early as 6000 BC. It appears to exist only in humans, and probably only in human who have stood and walked.

In the town of Carmarthen in west Wales in 1282, a monastic institution was opened in which both monks and lay brothers lived and worked. Archaeologic excavations on the site of the priory during the 1980s revealed a large amount of human skeletal material from monastic burials carried out while the priory was active. Among the finds were two well preserved lumbar vertebrae with defects of the pars interarticularis. In one subject, identified from other remain as a male about 16 years old, the defect was unilateral *(Fig. 1)*, in the other, a mature male, the defect was bilateral, with a complete and separate distal fragment *(Fig. 2)*.

(Newell; 1995)

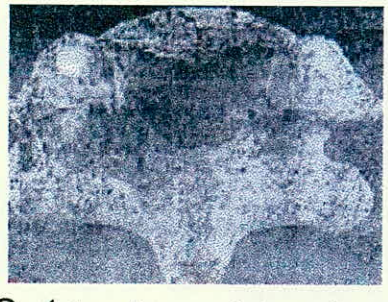

FIG. 1 Lumbar vertebra showing unilateral spondylolysis. *(Newell; 1995)*

FIG. 2 Lumbar vertebra with bilateral pars defect and separate fragments. *(Newell; 1995)*

The first observation of a spondylolisthesis was made by the Belgian obstetrician, Herbiniaux, in 1772. In 1854 Killian first coined the term spondylolisthesis. One year later Sir Robert of Coblenz was the first demonstrate that an olisthy would occur if the neural arch was sectioned.

(Sagi et al; 1998)

The condition of spondylolisthesis was recognized and described many years before that of spondylolysis. Robert zu Coblenz was the first to recognize the importance of the integrity of the neural arch in preventing forward slip of the fifth lumbar vertebrae on the first sacral. In 1865, writing in the same journal in which Robert zu Coblenz had reported his findings, Hartmann was said by Newman and stone to have been the first to point out that in "obstetric" spondylolisthesis, although the vertebral body moves forward, the spinous process does not. In almost all of early descriptions, spondylolisthesis appears to have been of the type IIa (Isthmic lytic) variety. Once the presence of the defect had been recognized, a new controversy began. This related to the relative importance of trauma and developmental dysplasia in causing the defect.

(Newell; 1995)

The concept of spinal fusion surgery was first reported in 1911 by Albee, who thought to inhibit tuberculosis spread in pott's disease by providing mechanical support and stability to involved vertebrae and by hibbs, who later used fusion surgery to halt the progression of scoliotic deformity.

(Boden and Sumner; 1995)

Albee implanted a tibial graft in the spinous processes, which he thought might provide an internal splint and hasten stabilization of the spine. In 1917, surgeons made use of the scapular spine as an internal splint and source of bone grafting material.

In the same year, Hibb's reported on spinal fusion to prevent increase deformity of scoliosis. In these earlier experiences, no internal fixation was used although Harda in 1891 had reported a technique for wiring of the spine, and Lange in 1902 had developed a system of steel rods and a celluloid cylinder to provide structural support.