



شبكة المعلومات الجامعية

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شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكرو فيلم

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم



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بالرسالة صفحات

لم ترد بالأصل



B1.V71

*Faculty of Medicine
Assiut University
Orthopedic & Traumatology Department*

Surgical Management of Spinal Metastases

Thesis

**Submitted for Partial Fulfillment of the Master Degree of
orthopedic surgery & Traumatology**

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LIST OF ABBREVIATIONS

GIT	=	Gastrointestinal tract.
CT	=	CAT scan (Computerized Tomography)
MRI	=	Magnetic resonance imaging.
LH	=	Leutenizing Hormones
LHRH	=	Leutenizing Hormones Releasing Hormone.
LSJ	=	Lumbosacral junction.
Gd	=	Gadolinium.
PTA	=	Posterolateral transpedicle approach.
TES	=	Total enbloc spondylectomy.
PLL	=	Posterior longitudinal ligament.
MIRA	=	Minimal invasive retroperitoneal approach.
FSU	=	Functional spinal unit.
Z joint	=	Zagopophyseal joint.
SCF	=	Cerebrospinal fluid.
TSRH	=	Texas Scottish Rite Hospital Spinal Instrumentation System.
MMA	=	Methylmethacrylate.
TPSF	=	Transpedicular screw fixation.
MRI	=	Magnetic resonance image.
CTG Needle	=	C.T. Guided Needle.
Tel. No.	=	Telephone Number.
CD	=	Cotrel Dubousset Instrumentation System.
LSI	=	Lumbosacral junction.

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Rafik Ragaei

*INTRODUCTION
AND
AIM OF THE WORK*



INTRODUCTION AND AIM OF THE WORK

The spine is the most common site for skeletal metastases, irrespective of the primary tumor involved, Fig. (1). Metastatic disease of the spine occurs in as many as 70% of patients with disseminated cancer and may result in vertebral collapse, spinal instability, and progressive neurologic compromise (*Harrington, 1993*).

Lesions associated with primary tumors from the breast, prostate, kidney, thyroid and lesions associated with lymphoma and myeloma account for 75% of all spinal metastases. When lung cancer is included the percentage is greater than 90% (*Bell, 1997*). Multiple myeloma and lymphoma are the most common sources of disseminated skeletal lesions. Although whether they are classified as metastatic or primary lesions has varied from author to author making an accurate assessment of their relative importance is difficult.

When only the solid tumors are considered, breast, lung and prostate carcinoma comprise the majority of spinal metastases, followed by renal, GIT and thyroid carcinoma.

The clinical behaviour of the primary tumor will determine the perceived prevalence and ultimately determine the clinical importance of that lesion for each patient. For example, patients with breast and prostate carcinoma frequently survive long enough to require treatment of their spinal metastases, whereas patient with pulmonary malignancy often succumb so rapidly that little more than supportive care is required. Because GIT Carcinoma tends to involve the liver and lung long before it involves the spine, these patient often die before their spinal lesion becomes clinically apparent.

Moreover, the thoracic spine is the most common site associated with serious neurological complications and intractable pain due to vertebral collapse, spinal instability and nerve root compression.

The incidence of spinal metastases in patients with cancer varies between 30% and 70%, and all these patients are at risk for developing symptomatic spinal cord compression. This risk increases continuously as the life expectancy of patients with tumors is prolonged by advances in oncologic treatment. However, the various treatment methods for patients with spinal metastases are only palliative, and survival may be for only a few months, (*Weigel et al., 1999*).



The majority of cervical spine metastatic lesions will be amenable to non operative aggressive modalities, aimed at shrinking tumor size and halting growth. Surgical intervention is limited to specific indications, including spinal instability, progressive neurologic deterioration from bony collapse and compression, intractable pain, and failure of conservative means of treatment (*Jenis et al., 1999*).

The surgical treatment of spinal metastases depends on many factors. These include; the type of the tumor, its location, presence or absence of neural compression, the portion of the vertebra that involved, the anticipated mode of spinal failure, the biology of the tumor, the anticipated life expectancy of the patient, the type of prior or subsequent adjuvant treatment and the patient overall functioning and medical status.

The surgical approach of spinal metastases is dictated largely by the location of the tumor within the spine; anterior vertebral body tumors generally should be approached anteriorly, whereas posterior lesion, should be approached posteriorly. Anterior decompression should be accompanied by reconstruction with biologic material such as autogenous bone graft unless life expectancy is certain to be very limited (< 6 months).

The goals of surgery are : first, to improve pain and quality of life, secondly to prevent, improve, or even restore neurologic function, and last but not least to correct kyphotic deformity. Because of the anatomic considerations, local control may be the only feasible goal, (*Lord et al., 1986*).

Spinal metastases are estimated to occur in 59% of patients with cancer or 18,000 patients per year in the united states. Recent studies have suggested that cervical involvement may occur in as much as 20% of all metastatic spinal tumor. Incidental discovery of metastatic vertebral tumors has been reported in 36 % of cases (*Jenis et al., 1999*).

AIM OF THE WORK

The aim of this work is to evaluate the surgical management for cases of spinal metastases used in Orthopedic Department in Assiut University Hospital.

Incidence and distribution of skeletal metastases

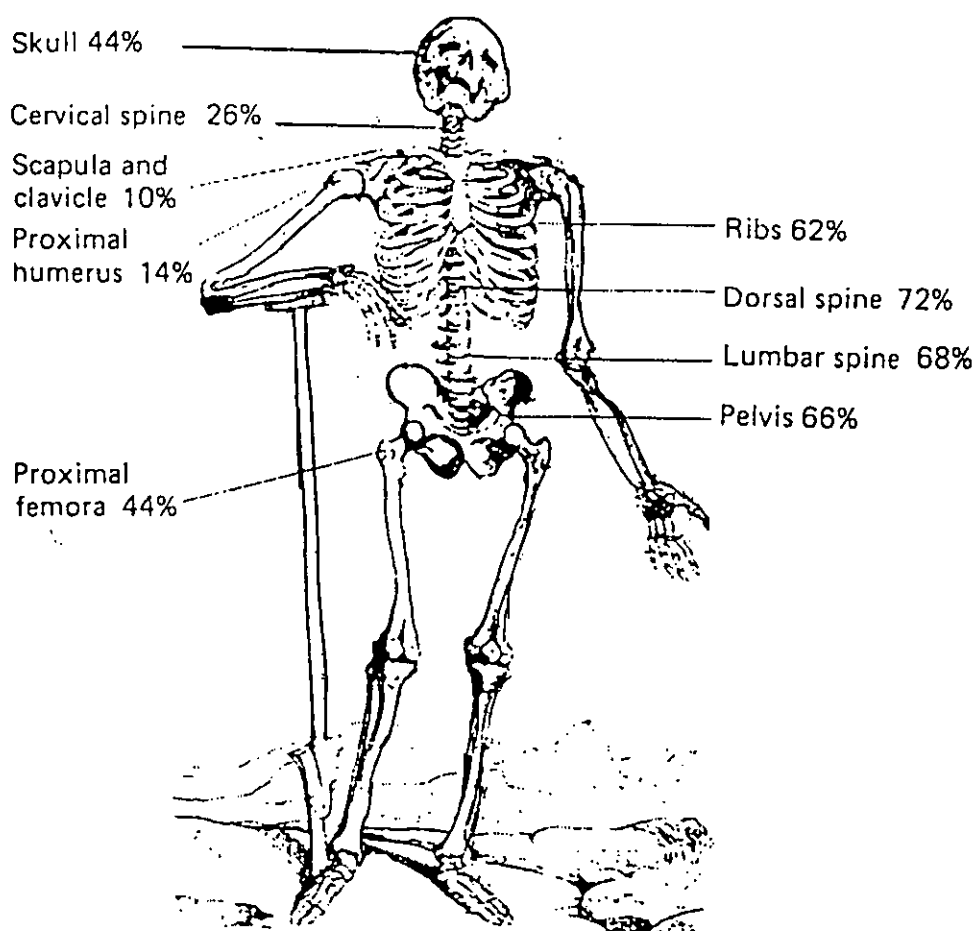


Fig. (1) : The distribution of skeletal metastases (*Galasko, 1986*).