

# **Limb Reconstruction in L.L Sarcoma using Tibial Autograft.**

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# Limb- Sparing Surgery

**Tumor resection & reconstruction  
of the limb with an acceptable  
oncologic, functional, & cosmesis**

**LSS replaced amputation  
in limbs bony sarcomas.**

**= Effective Chemo R/**

**= Precise imaging**

**1-Endoprosthesis**

**2-Distraction osteogenesis**

**3-Vascularized graft**

**4-Massive Allograft**

**5-Resection shortening**

**6-Rotationplasty**

# Four keys components for a viable limb:

1- Bone

2- Soft tissue

3- Vessels

4- Nerves.

LSS

LSS

# Barriers to LSS

= **Wrong Bx.**

= **Major vascular involvement.**

= **Major motor N involvement.**

= **Pathological # .**

# Massive Tibial Autograft for limb reconstruction post sarcoma resection

## 7 Patients

2 Adults, 5 <14y

4 Osteosarcoma - Femur

3 Ewing's Sarcoma- Tibia

# Indications

- 1- Diaphyseal**
- 2- Metaphyseal-Diaphyseal**
- 3- Intra articular extension**
- 5- Near the ankle or knee**



# Contraindications

**1-Pathological #**

**2-Fungating local disease**

**3-Near the Hip & Shoulder joint**

**4-Skip lesion near the Hip**

	<b>Case</b>	<b>A/S</b>	<b>Biopsy</b>	<b>Dx</b>	<b>Site</b>
<b>1-</b>	<b>M.Sad</b>	<b>6.5-M</b>	<b>5mm</b>	<b>Osteo</b>	<b>Distal</b>
<b>2-</b>	<b>Om.F</b>	<b>12-M</b>	<b>10cm</b>	<b>Osteo</b>	<b>Shaft</b>
<b>3-</b>	<b>Ma.Sa</b>	<b>64-F</b>	<b>9cm</b>	<b>Fibro</b>	<b>Distal</b>
<b>4-</b>	<b>Ne.Kh</b>	<b>18-F</b>	<b>1cm</b>	<b>Hgic</b>	<b>Distal</b>
				<b>Osteo</b>	

# Femoral Tumors

	<b>Case</b>	<b>Age</b>	<b>Dx</b>	<b>Resection</b>	<b>Stage</b>
<b>1-</b>	<b>M.Sad</b>	<b>6.5-M</b>	<b>Osteo</b>	<b>19cm</b>	<b>IIB</b>
<b>2-</b>	<b>Om.F</b>	<b>12-M</b>	<b>Osteo</b>	<b>29cm</b>	<b>IIB</b>
<b>3-</b>	<b>Ma.Sa</b>	<b>64-F</b>	<b>Fibro</b>	<b>20cm</b>	<b>IIB</b>
<b>4-</b>	<b>Ne.Kh</b>	<b>18-F</b>	<b>Hgic.O steo</b>	<b>18cm</b>	<b>III</b>

# Femoral Tumors

	Case	Age	Dx	Necrosis	Prognosis
1-	M.Sad	6.5-M	Osteo	<10%	4y
2-	Om.F	12-M	Osteo	50%	14m
3-	Ma.Sa	64-F	Fibro	50%	9m
4-	Ne.Kh	18-F	Hgic. Osteo	0%	2y

# Femoral Tumors

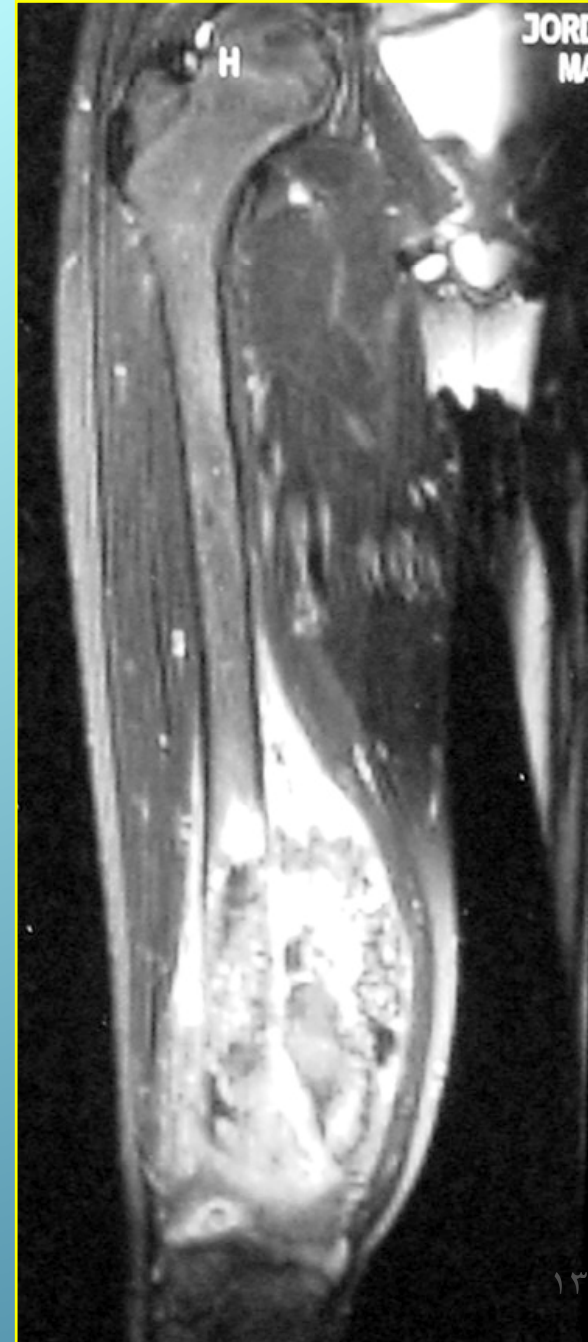


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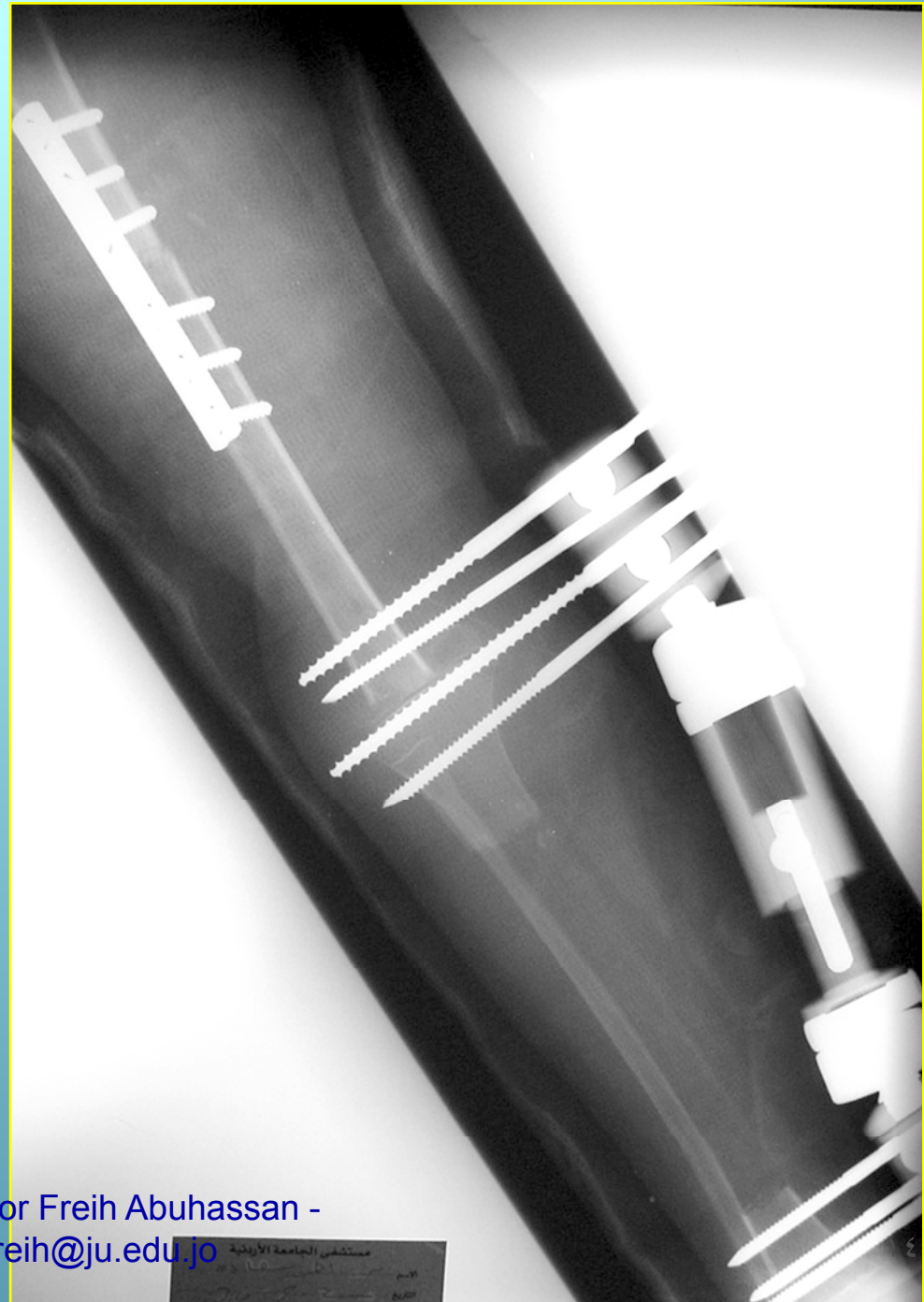
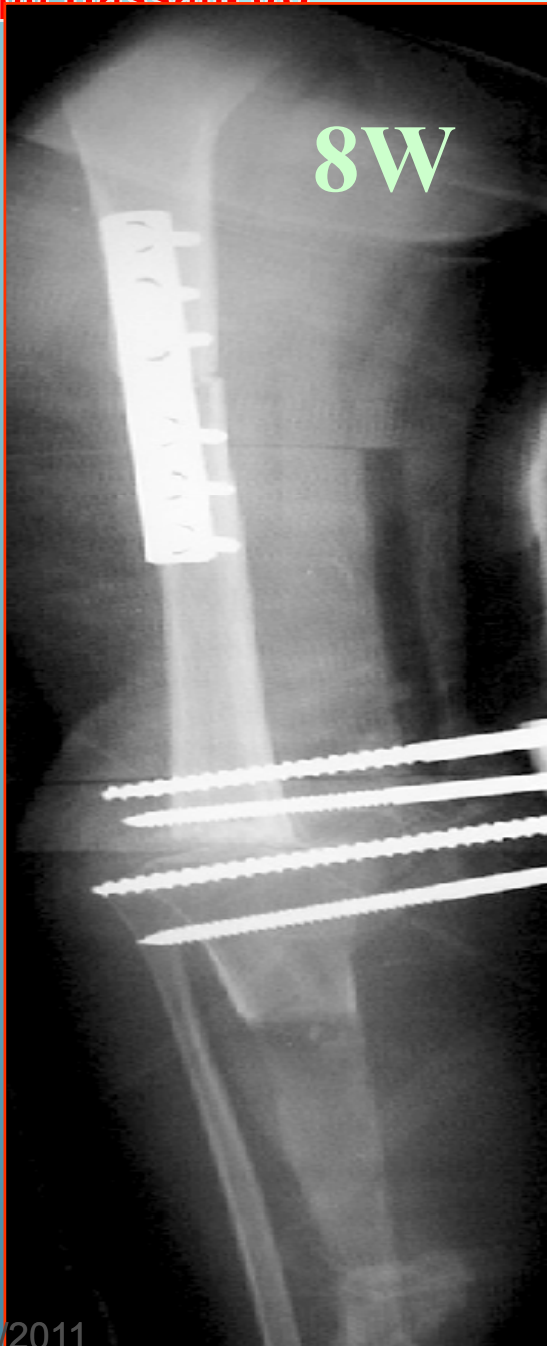
# CASE-1

## 6.5-M

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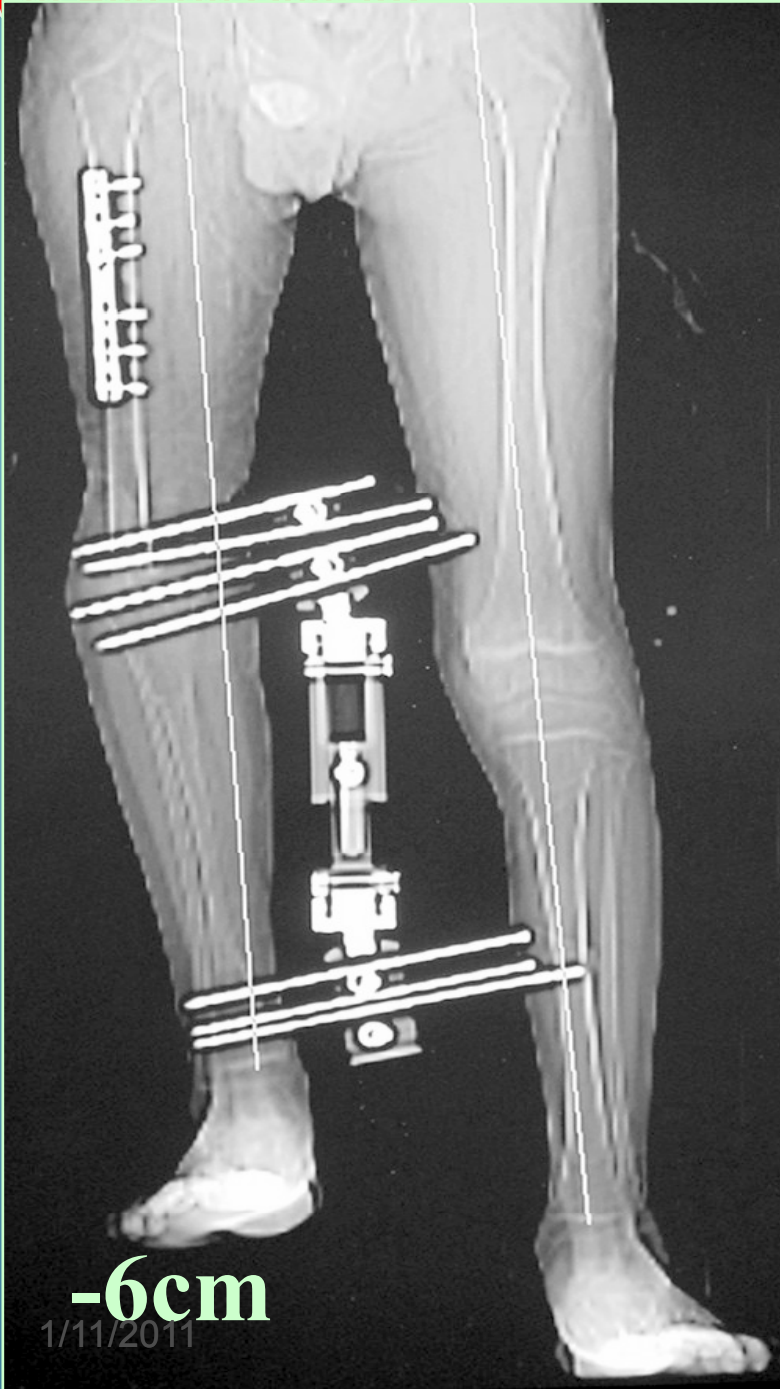


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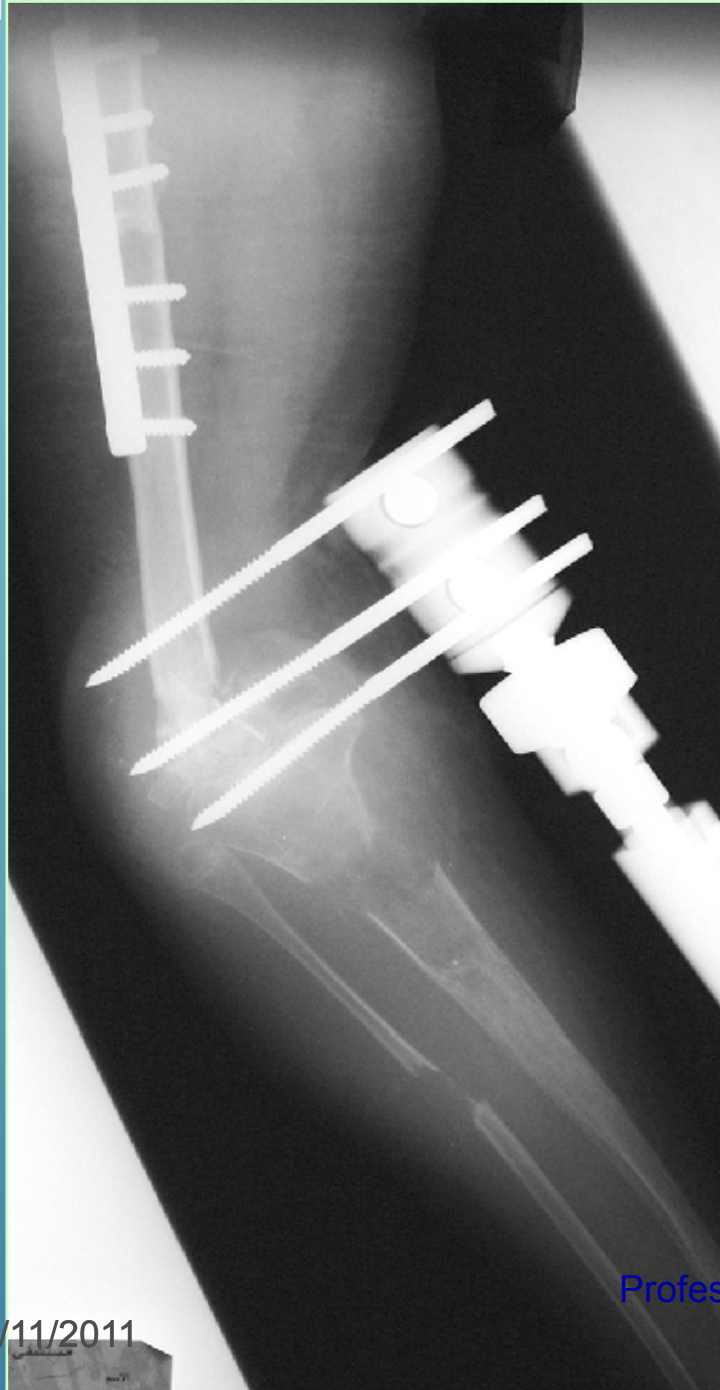
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4Y



1Y

# Complications

- 1-Pin tracts infection
- 2-Failure of the ext. fixator
- 3-LLD
- 4-ETA
- 5-Partial skin necrosis

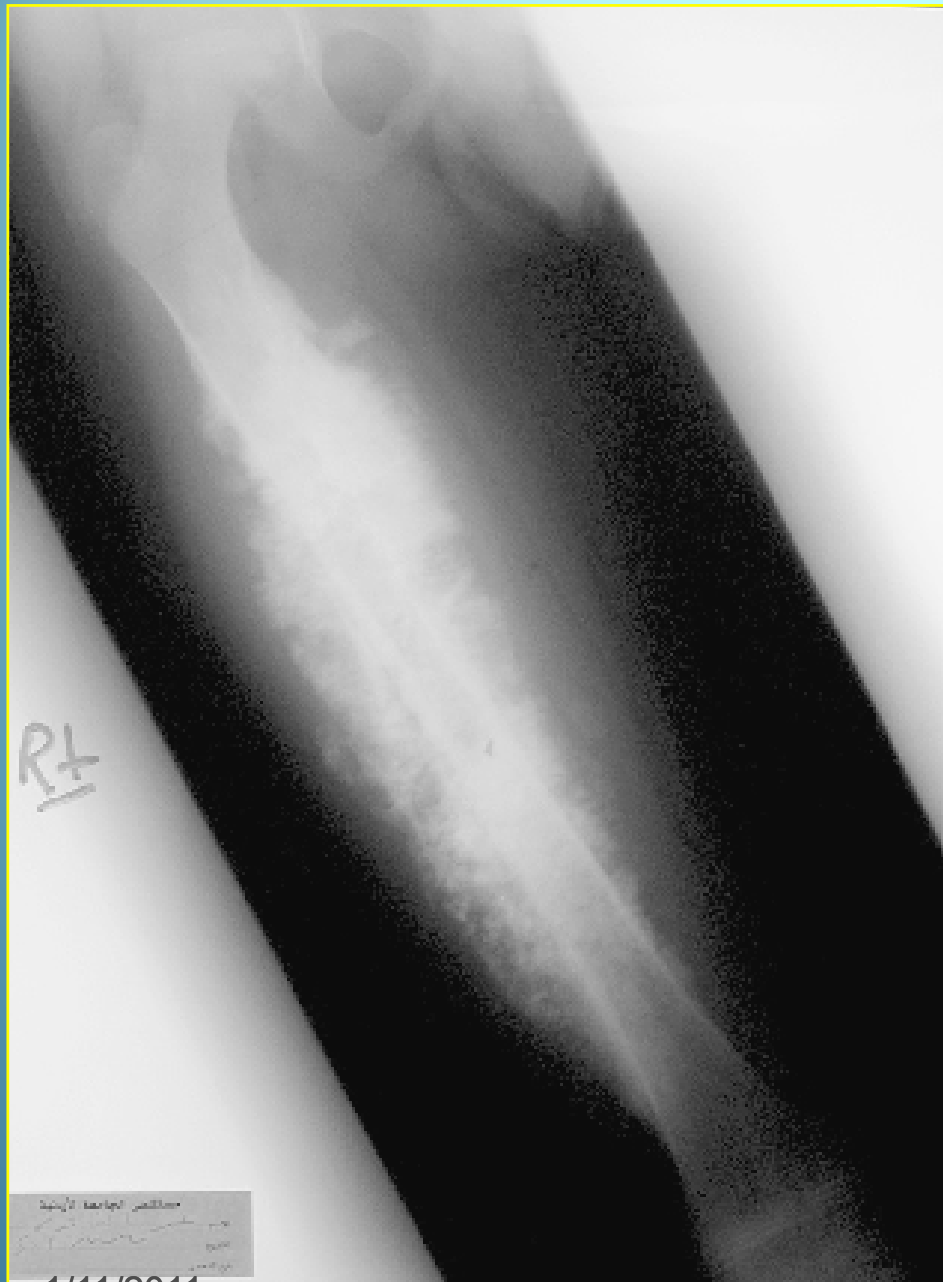


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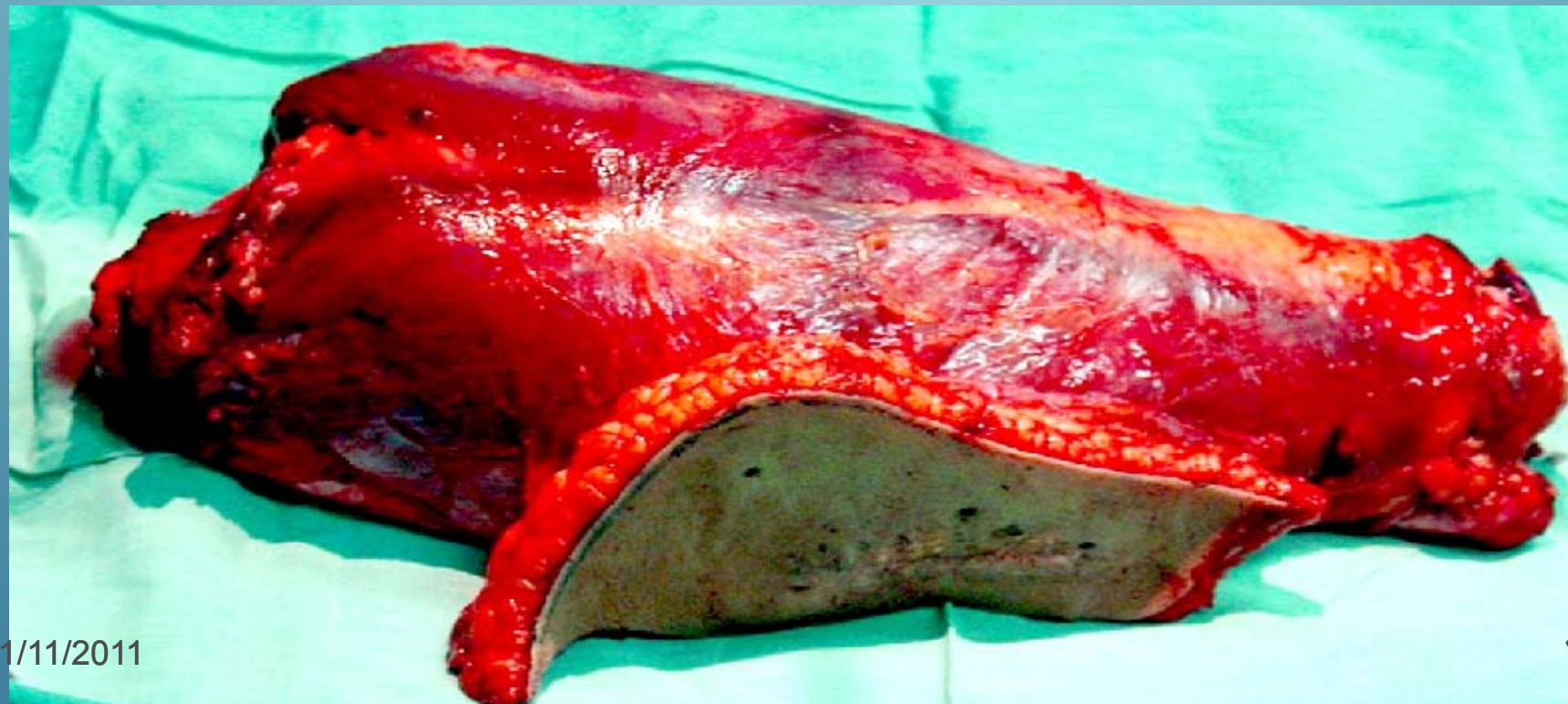


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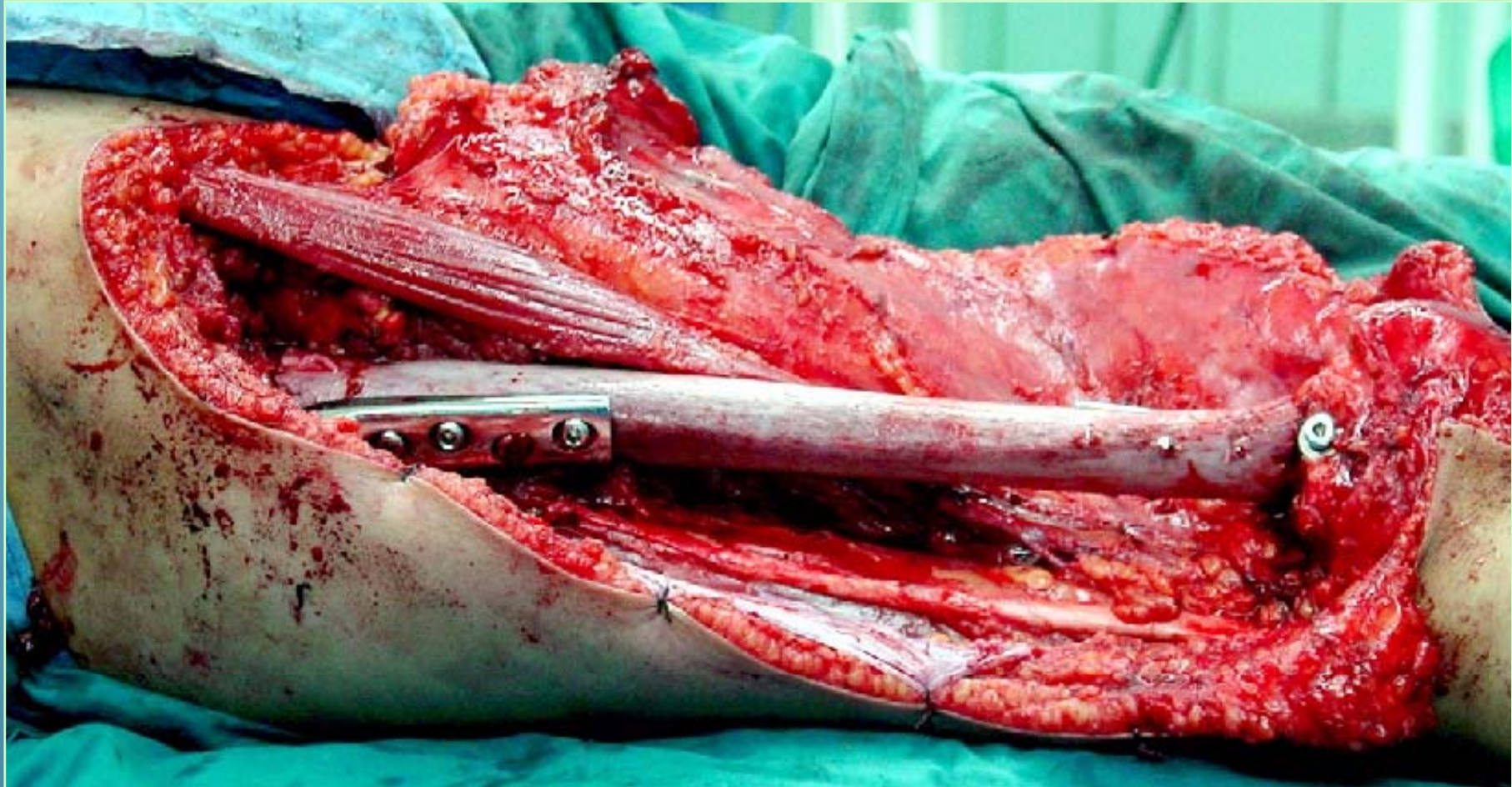
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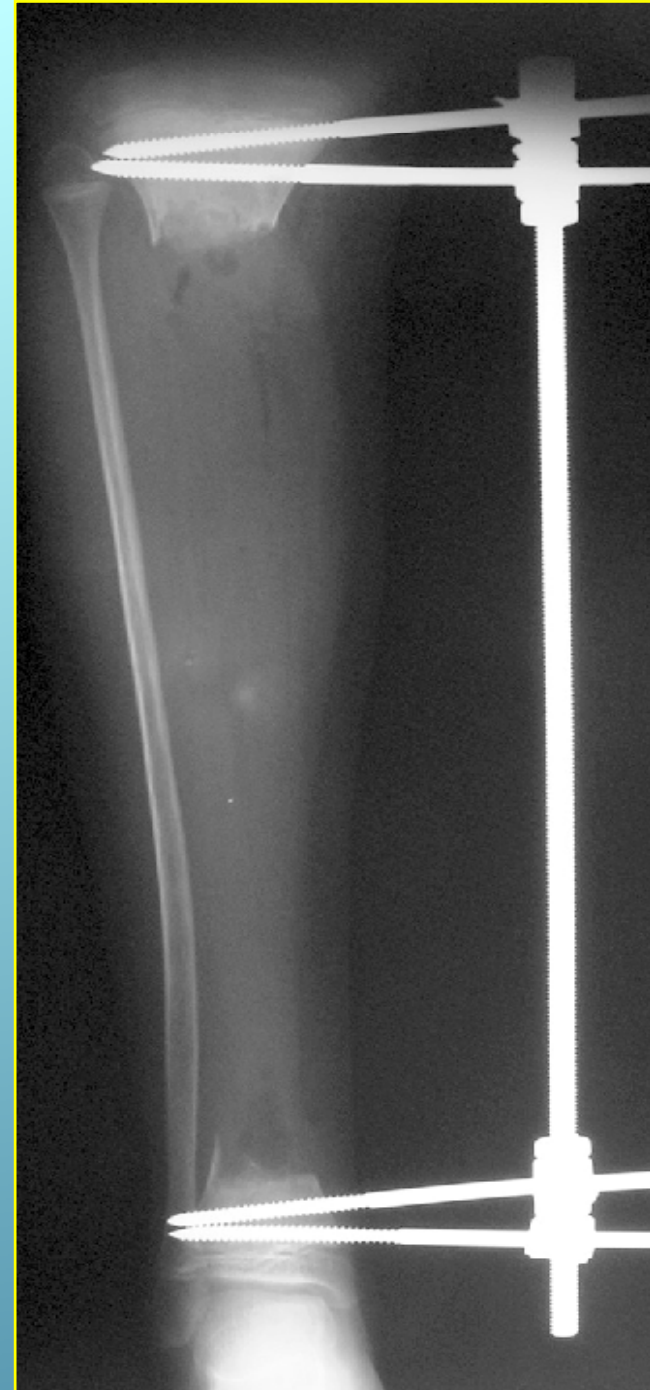


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**4w**

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**6m**

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# Complications

- 1-Flial knee → Brace
- 2-Local recurrence 9m post op
- 3-Disseminated mets 14m post op



# CASE -3







# Complications

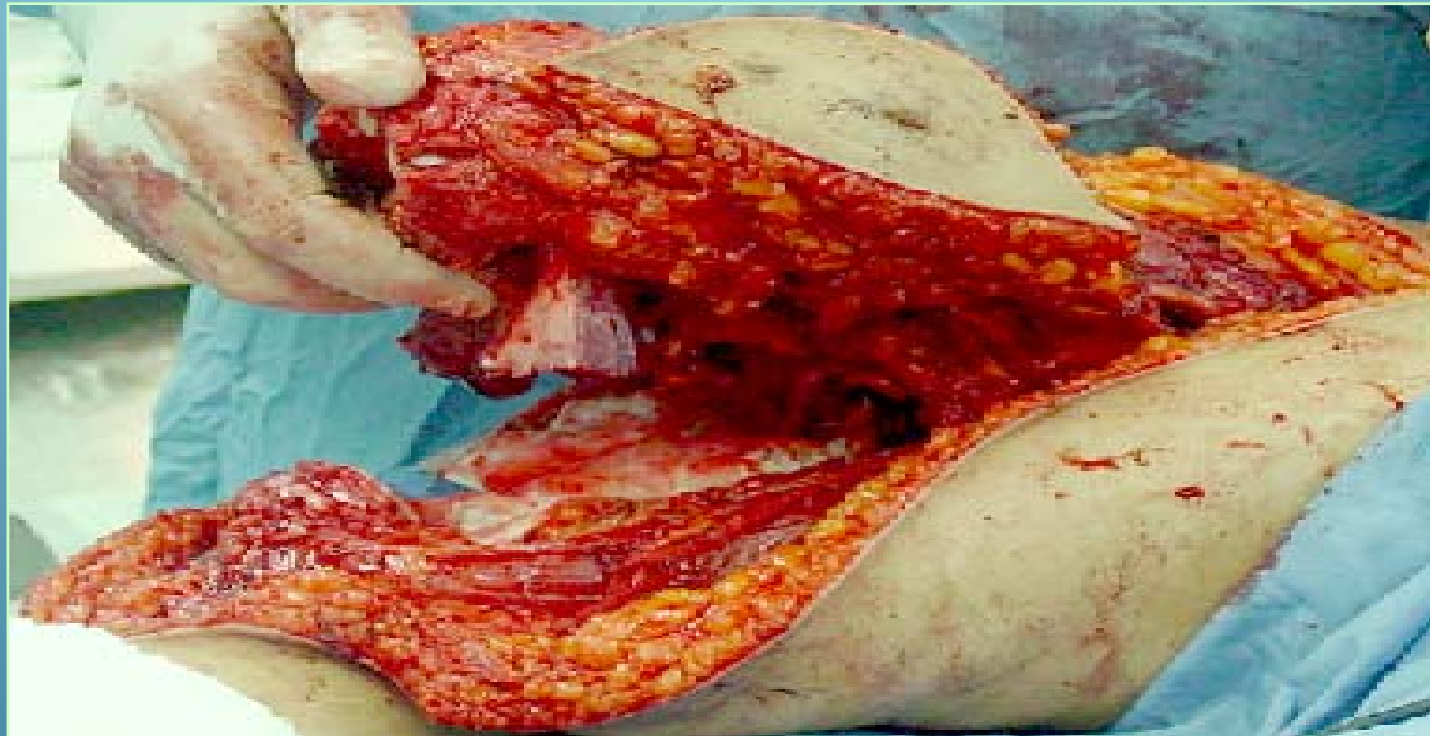
- 1- Seroma 2w post op.**
- 2- Sepsis**
- 3- Multiorgan failure 6m post op**

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# Complications

- 1-Partial skin necrosis
- 2-Cellulitis
- 3-Seroma
- 4- Non union → Re nailing
- 5-Lung mets.

	<b>Case</b>	<b>A/S</b>	<b>Bx</b>	<b>Dx</b>	<b>Site</b>
<b>5-</b>	<b>A.Hat</b>	<b>10-M</b>	<b>8cm</b>	<b>Ewing's</b>	<b>Distal</b>
<b>6-</b>	<b>M.Aw</b>	<b>14-M</b>	<b>5cm</b>	<b>Ewing's</b>	<b>Shaft</b>
<b>7-</b>	<b>K</b>	<b>13-F</b>	<b>4cm</b>	<b>Ewing's</b>	<b>Proximal</b>

# Tibial Tumors

	Case	A/S	Dx	Resection	Stage
5-	A.Ha	10M	Ewing's	16cm	IIB
6-	M.Aw	14M	Ewing's	20cm	III
7-	K	13F	Ewing's	24cm	IIB

# Tibial Tumors

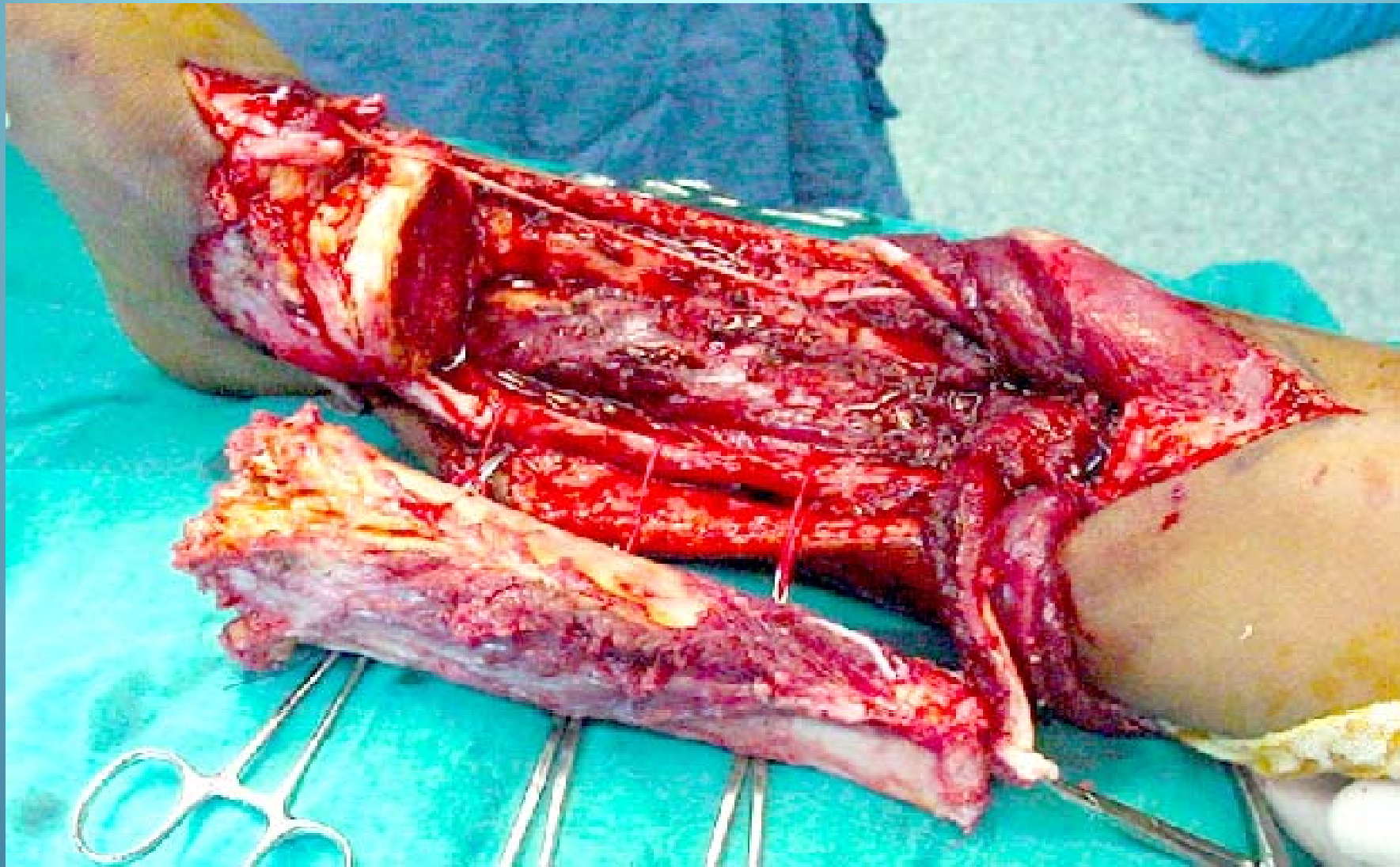
	<b>Case</b>	<b>A/S</b>	<b>Dx</b>	<b>Necrosis</b>	<b>P.Op.</b>
<b>5-</b>	<b>A.Ha</b>	<b>10M</b>	<b>Ewing's</b>	<b>80% 20%</b>	<b>6m</b>
<b>6-</b>	<b>M.Aw</b>	<b>14M</b>	<b>Ewing's</b>	<b>100%</b>	<b>3m</b>
<b>7-</b>	<b>K</b>	<b>13F</b>	<b>Ewing's</b>	<b>!!!!!!!!!!!!</b>	<b>2w</b>

# Tibial Tumors



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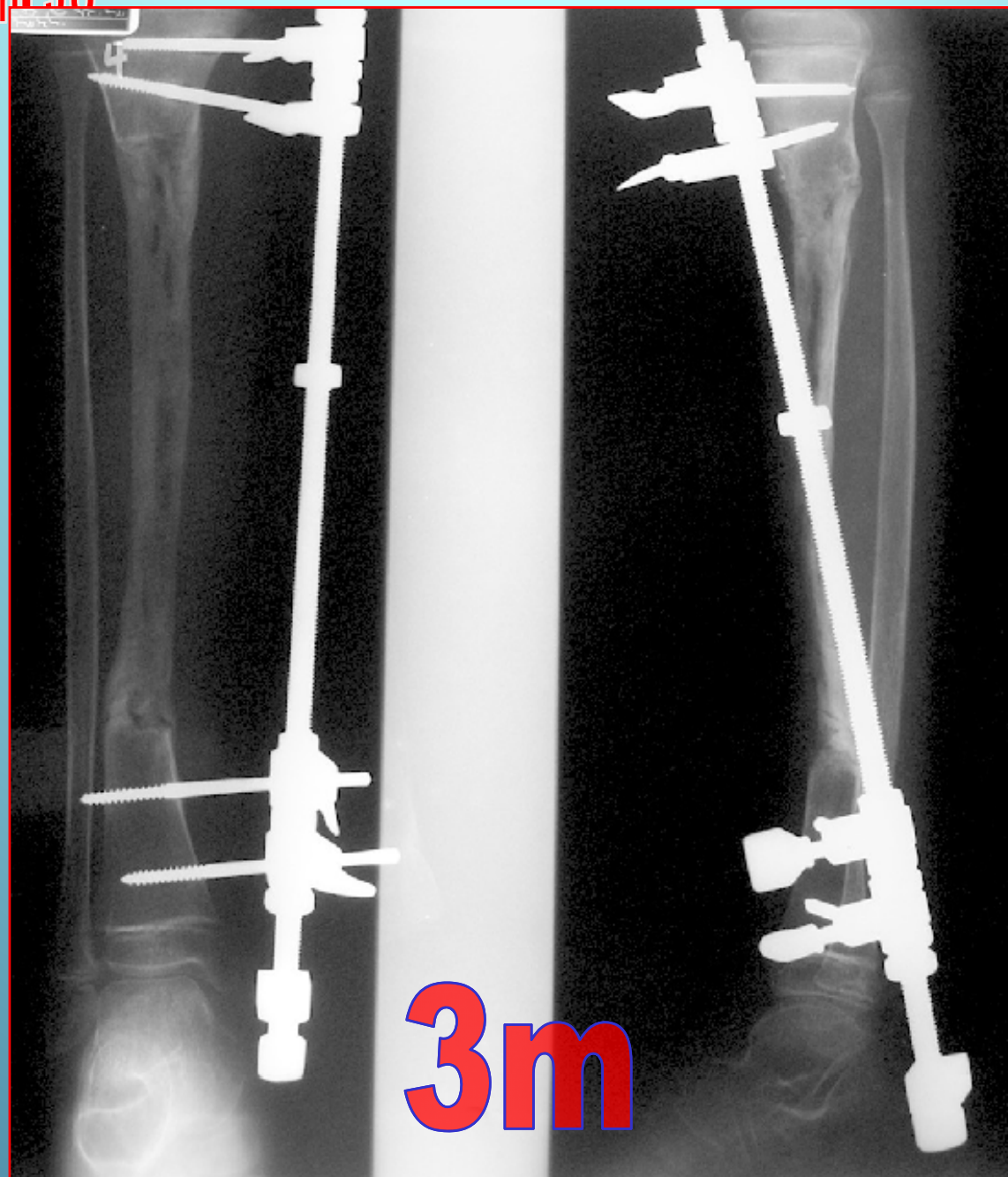


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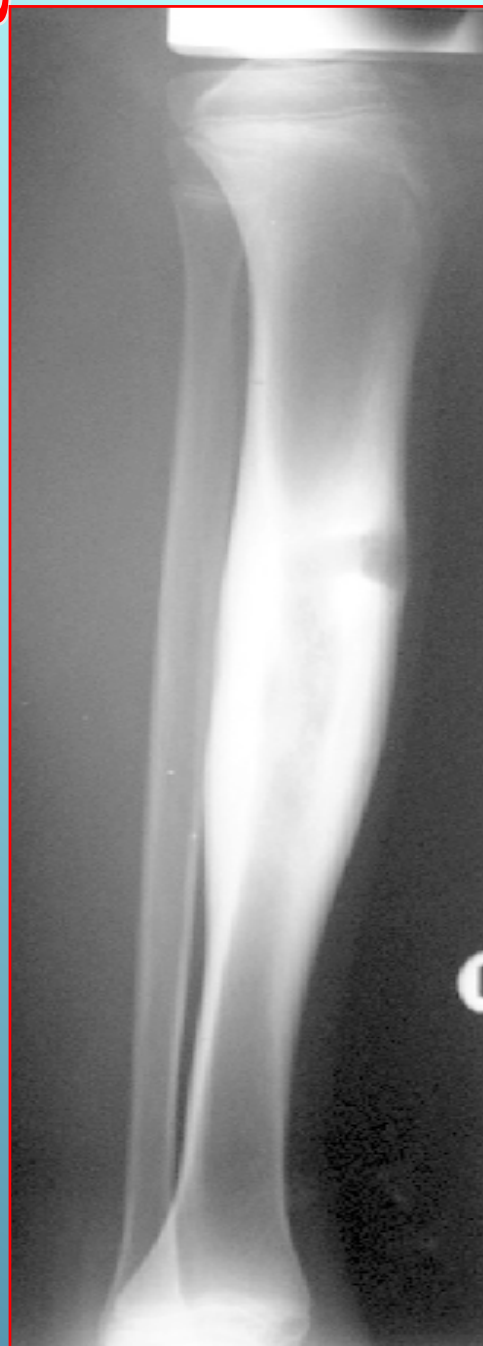


# *Complications*

**1-Foot drop**

**2-Partial skin necrosis**

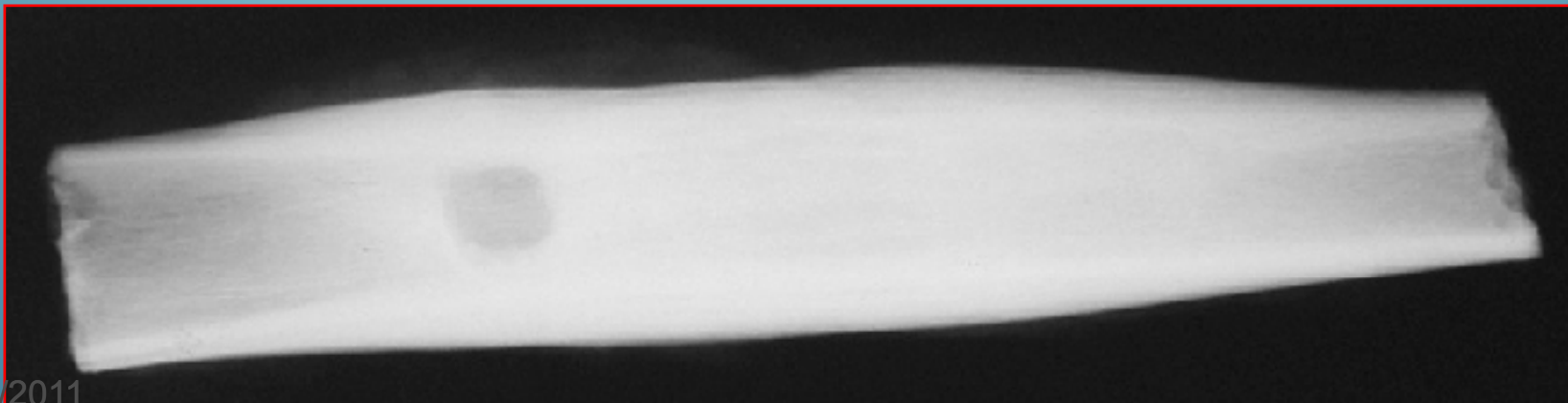
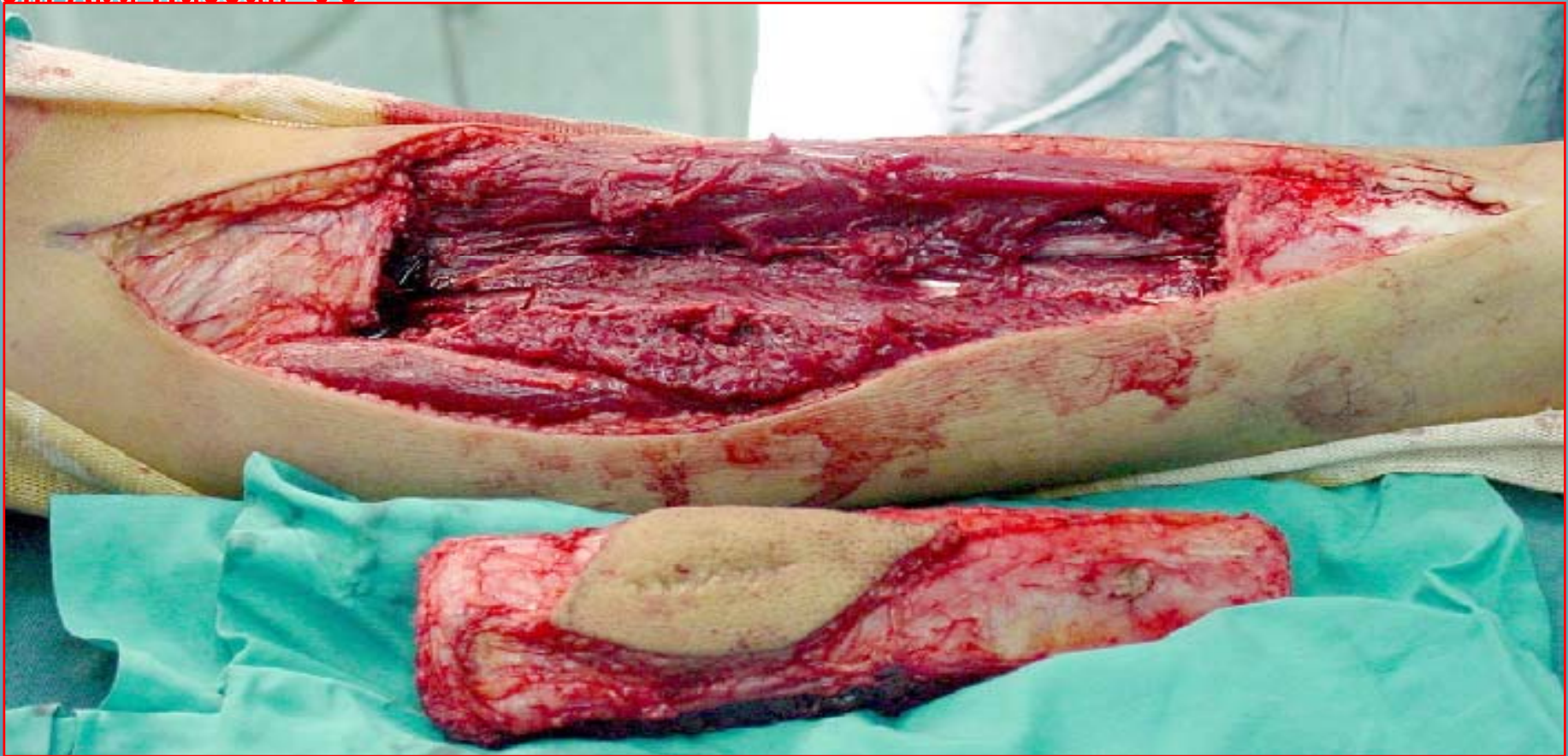
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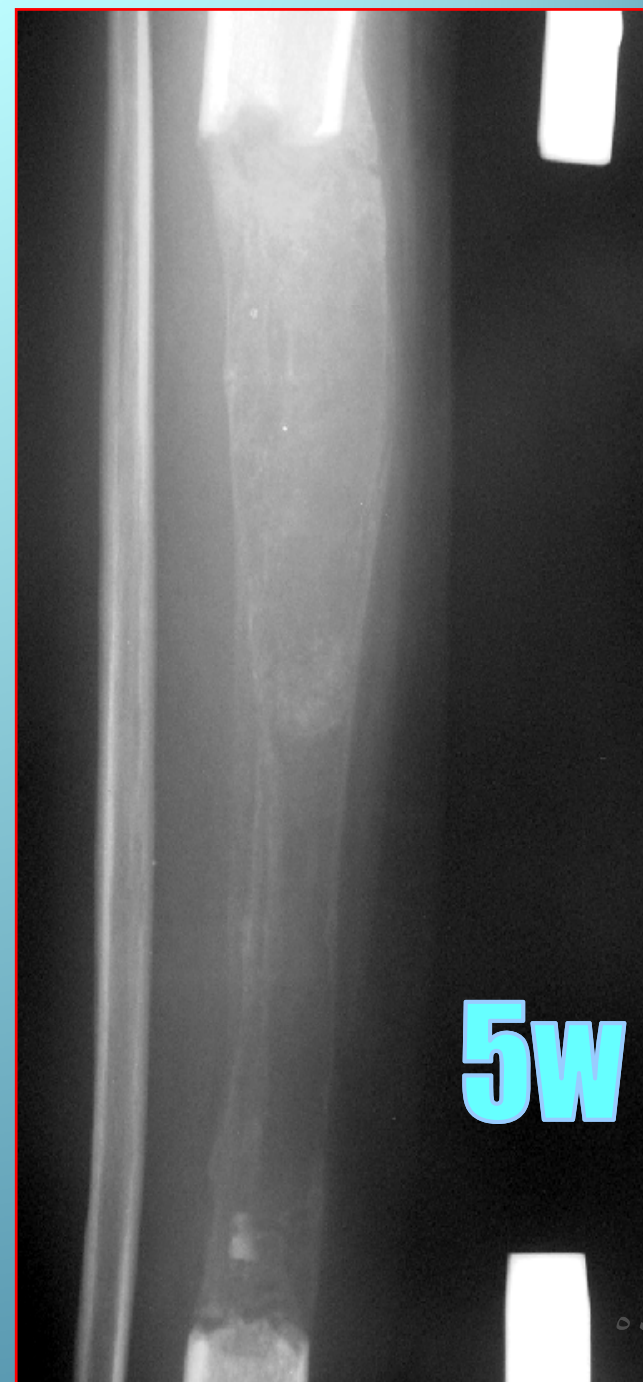


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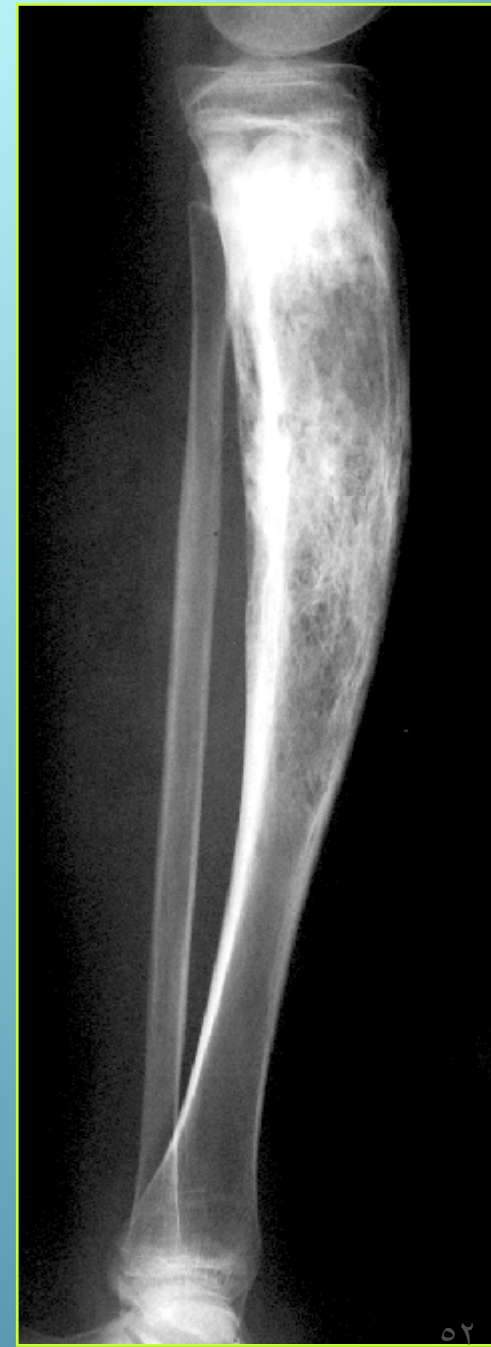


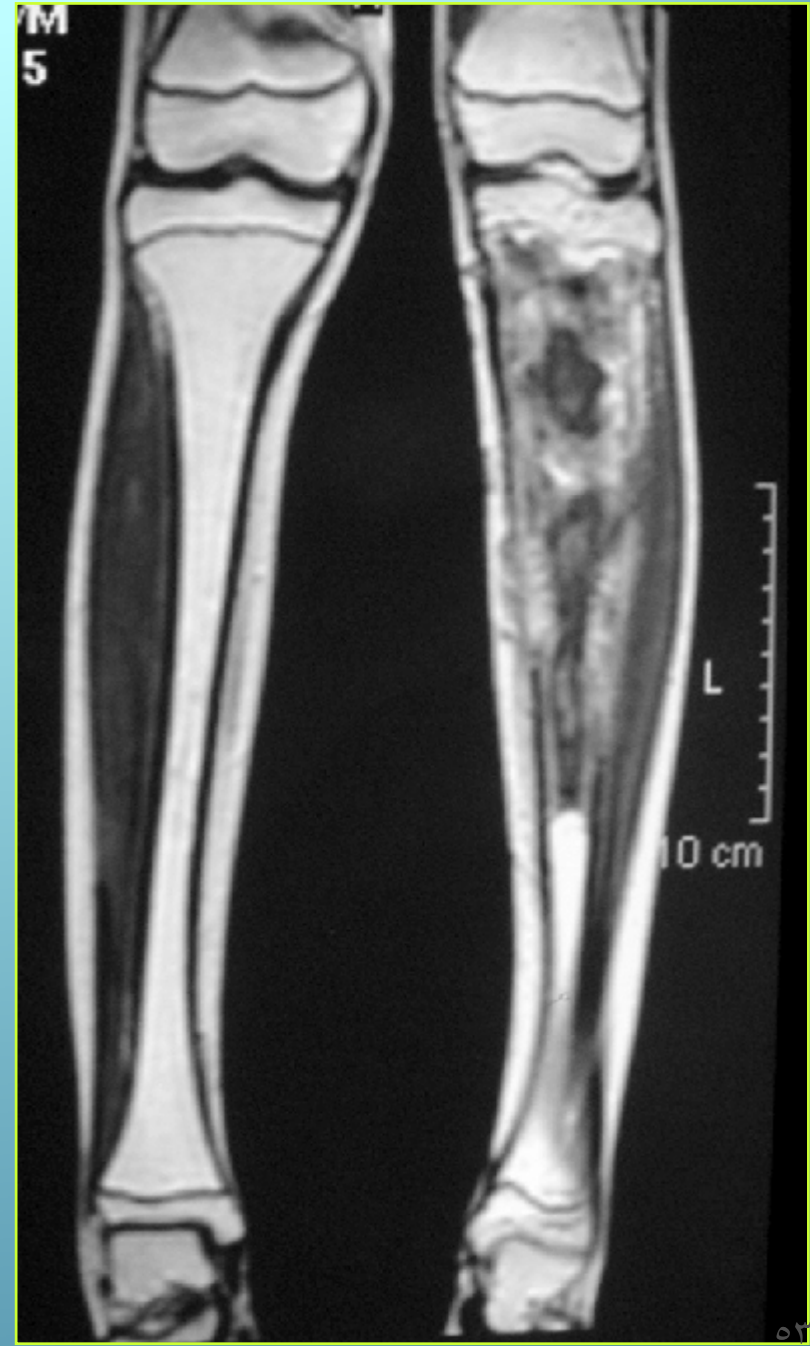
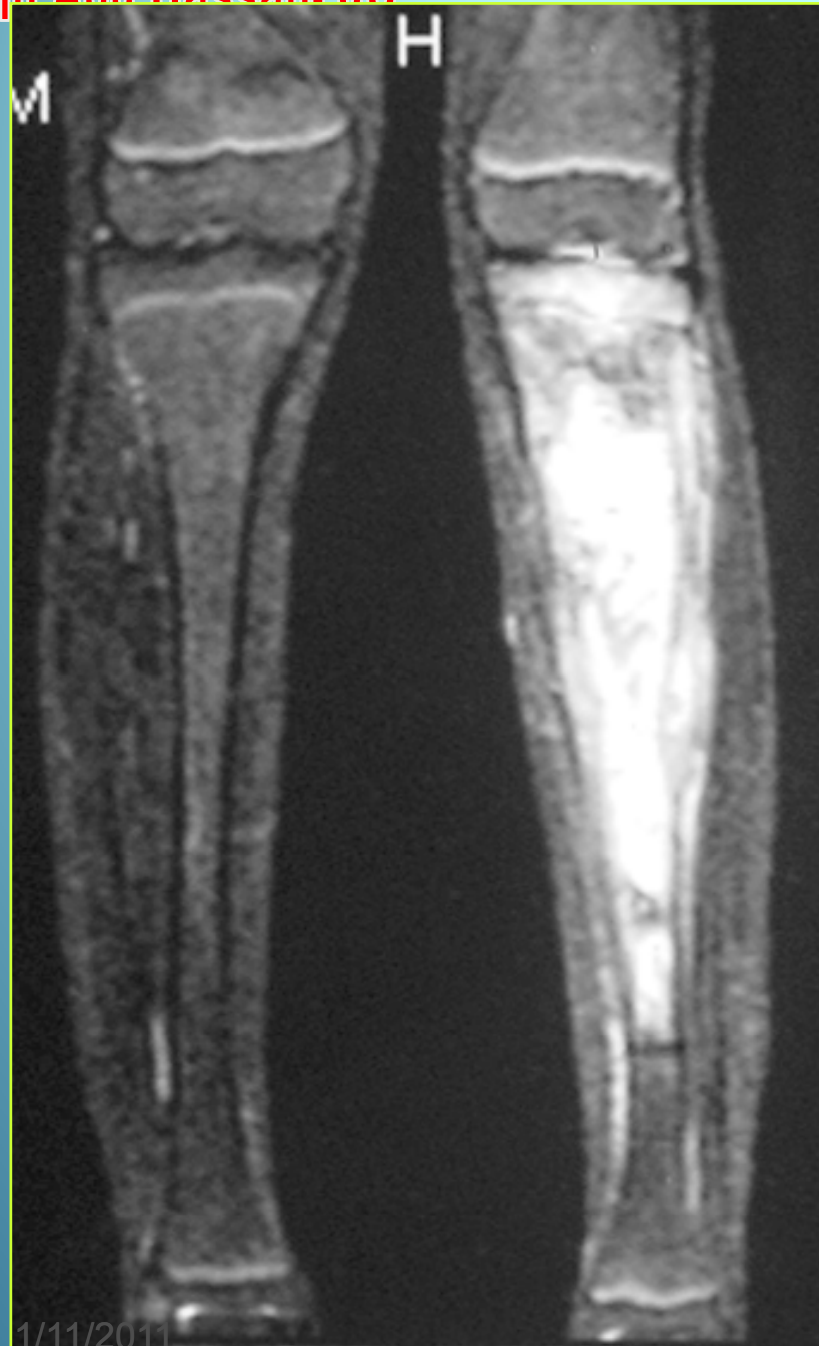






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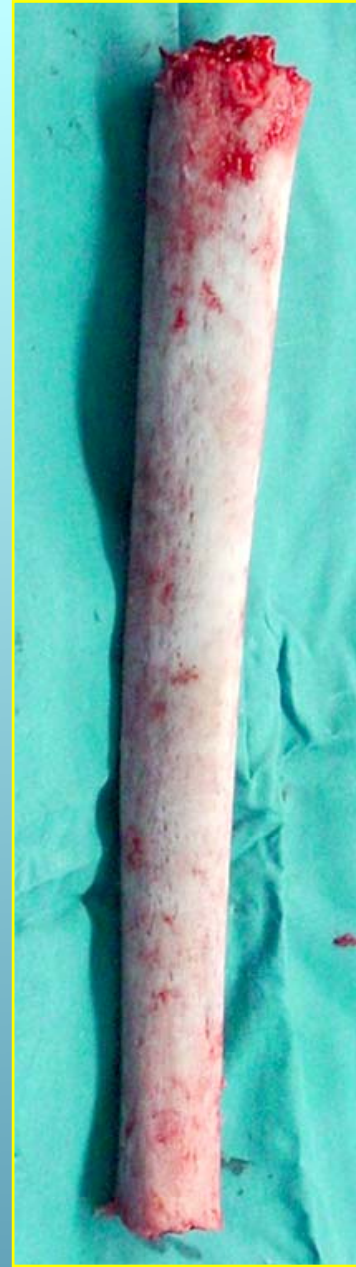




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# Final Outcome

	<b>Case</b>	<b>A/S</b>	<b>Dx.</b>	<b>Stage</b>	<b>Cause</b>	<b>Bx</b>
<b>1-</b>	<b>Ma.Sa</b>	<b>64-F</b>	<b>Fibro</b>	<b>IIB</b>	<b>Sepsis- MOF</b>	<b>Wrong</b>
<b>2-</b>	<b>Om.F</b>	<b>12-M</b>	<b>Osteo</b>	<b>IIB</b>	<b>Local R- Mets</b>	<b>Wrong</b>
<b>3-</b>	<b>Ne.Kh</b>	<b>18-F</b>	<b>Hgic. Osteo</b>	<b>III</b>	<b>Mets</b>	<b>Correct</b>

# قطع الاعناق ولا قطع الارزاق

ايطالية تفضل الموت على بتر ساقها

□ ميلانو (ايطاليا) - (ا ف ب)

تثير حالة ايطالية في الـ ٦٢ تفضل الموت على ان تبتر ساقها المصابة بالغرغرينة، جدلا في ايطاليا حيث تطالب السلطات بان تعالج بالقوة. وكانت الايطالية التي لم يكشف اسمها ادخلت في ٢٥ كانون الثاني احد مستشفيات ميلانو بعد اصابتها بالغرغرينة في ساقها اليمنى نتيجة مرض السكري. وطلب الاطباء منها الاذن بان تبتر ساقها لانقاذ حياتها لكنها رفضت وعادت الى عائلتها في جزيرة صقلية.

قطع الاعناق ولا بتر الاطراف

# **Advantages of our technique**

**1-Avoid amputation & its problems**

**2-Psychological support**

**3-No rejection of the graft**

**4-Excellent for children diaphyseal tumors**

# Disadvantages

- 1- Arthrodesis if near the joint**
- 2- Difficult for adults !!!!!**
- 3- Not suitable for Hip or Shoulder**

# Conclusion

- 1= LSS replaced amputation > 20y.**
- 2= Surgery will satisfy the patient needs.**
- 3= Complications are common.**
- 4= Our technique is helpful in young age,  
If the growing prosthesis not available.**
- 5= The best solution for diaphyseal  
tumors in children**

# **Our Problems**

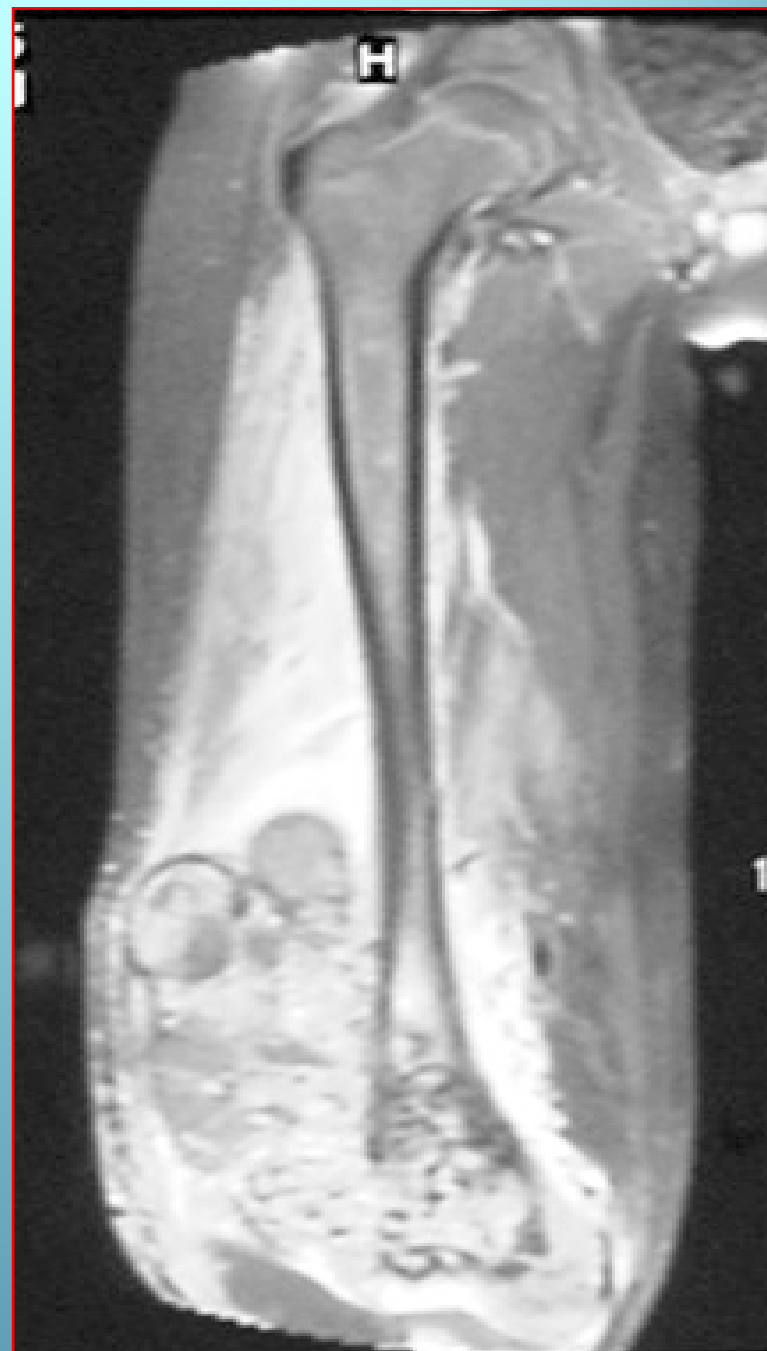
**1-Poor biopsy techniques**

**2-Late referral**

**3-Late presentation.**



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THANK YOU