



Early diagnosis



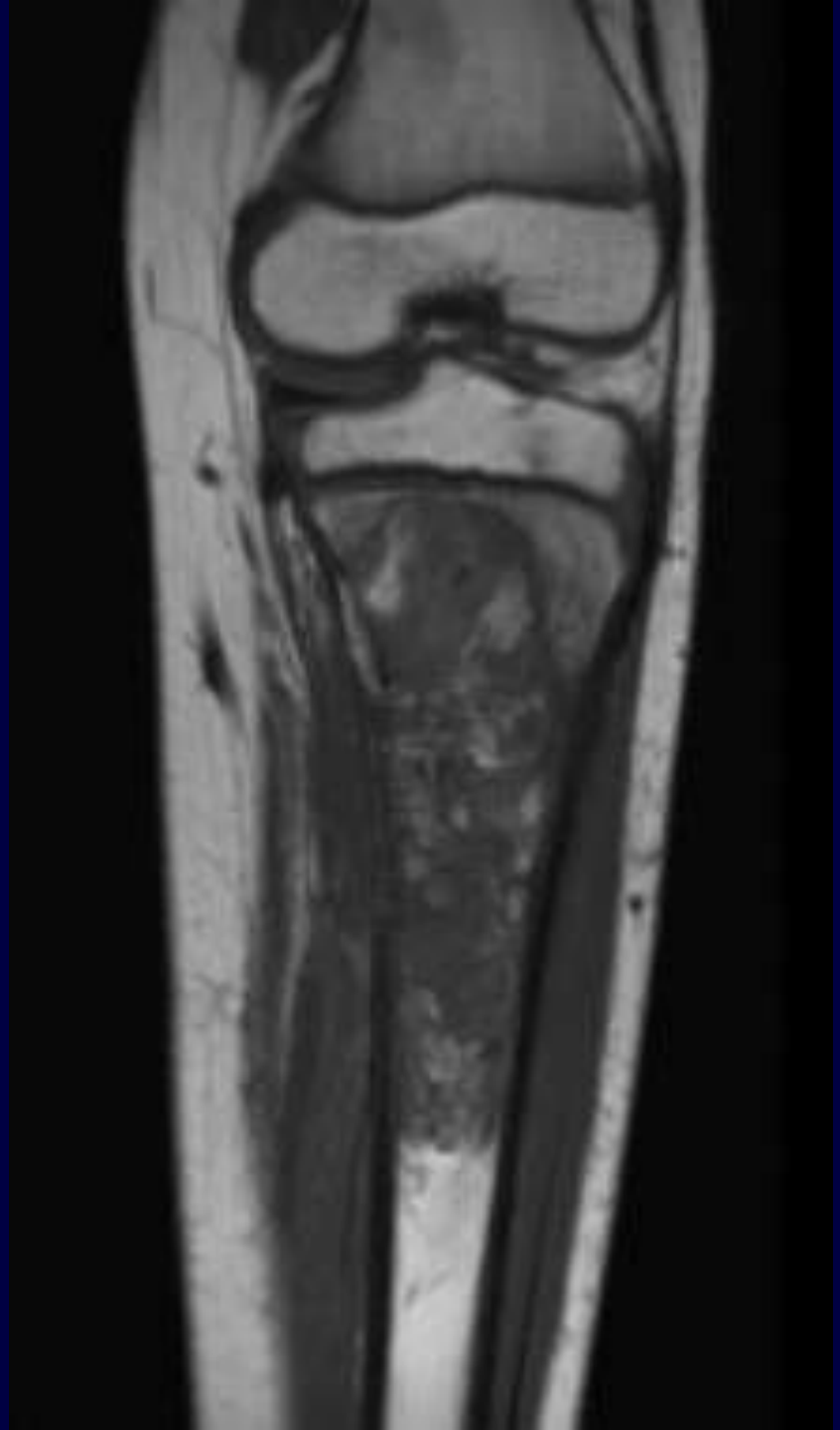
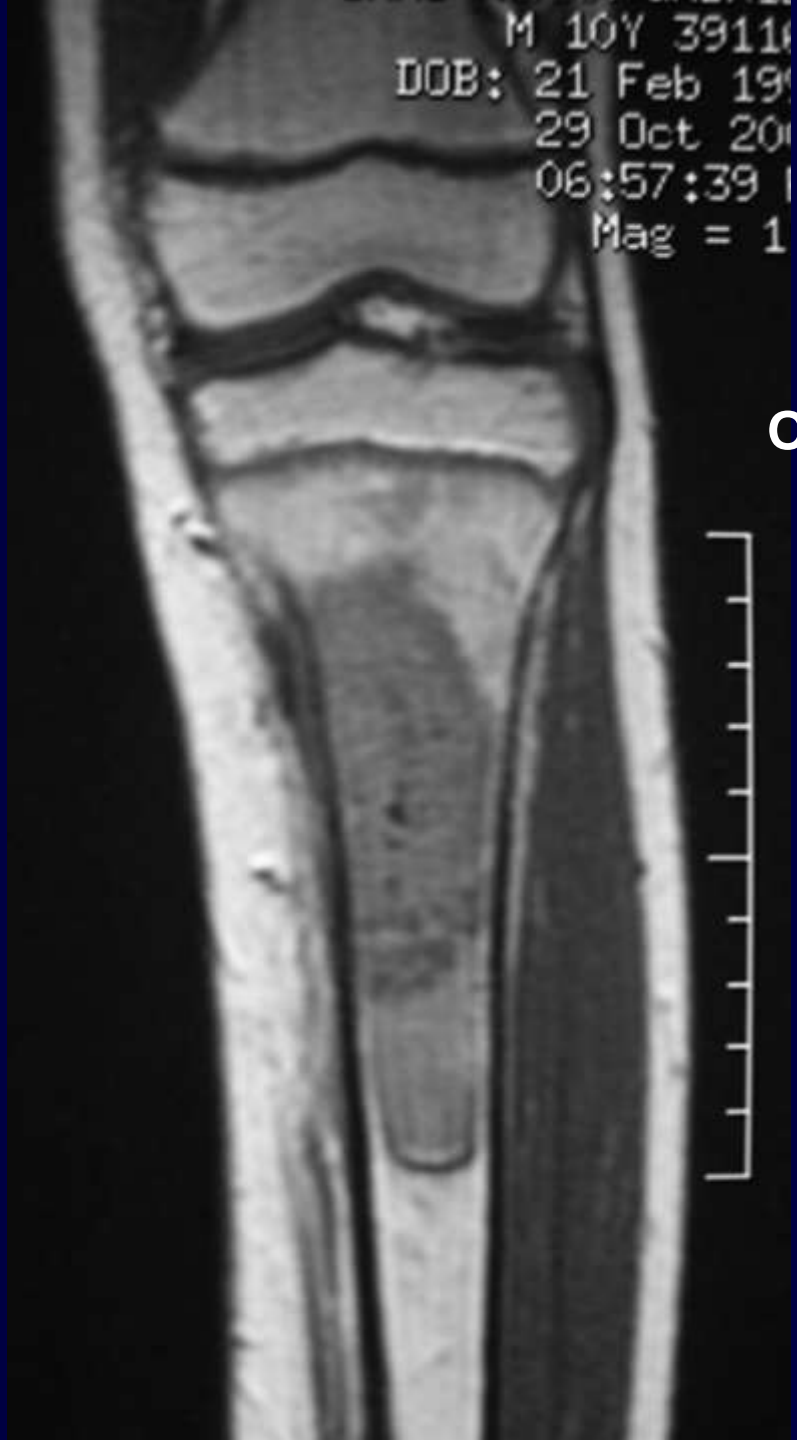
Is delayed diagnosis related to epiphyseal invasion and/or outcome in paediatric metaphyseal osteosarcoma?
A multicentric study

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M 10Y 3911
DOB: 21 Feb 19
29 Oct 20
06:57:39
Mag = 1

**One month
later
(Without
treatment)**





Without
chemotherapy

Sept-02

March-03



AIM



To determine whether the delay in diagnosis (time from initial symptoms to start of treatment) has an influence on the crossing of the physis by the tumour and/or on the outcome or...

The aggressiveness of the tumour itself is the responsible of outcome, regardless the lapse from initial symptoms to the beginning of treatment

Patients and methods

- Multicentric (bi-centric) study
- 157 pediatric metaphyseal high grade osteosarcomas
- Long-term follow-up, mean: 102 m (3-364)
- Statistical analysis (SPSS v15)

Items recorded



- Age
 - Two groups (according to pathologists report)
 - Tumors crossing the physis,
 - Tumours not crossing the physis
- Follow-up
- Time from initial symptoms to start of treatment
- Local recurrence
- Metastases at diagnosis
- Major diameter
- Necrosis
- Survival

Results:



Total

Physis crossed	59%
Physis not crossed	41%

Results:

	<u>Centre A</u>	<u>Centre B</u>
Physis crossed	61%	54%
Physis not crossed	39%	46%
Mean age	13.2	12.5

Results:

Delay dx*

Physis crossed (59%)	4 months (1-16m)
Physis not crossed (41%)	2 months (1-7m)

$P < 0.0001$

* *Time from initial symptoms to start of treatment*

Results

	Age	Delay dx*	met dx	LR	Ov. Surv.
Physis crossed	13.4	4 m.	42%	14%	49%
Physis not crossed	11.9	2 m.	22%	5%	67%
<i>P value</i>	0.05	<0.0001	0.04	0.07	0.04

* Time between initial symptoms and start of treatment

Results:

Age at dx

Physis crossed (59%)	13.4 y
Physis not crossed (41%)	11.9 y

$P=0.05$

Odds ratio (95% confidence interval) for Physis-crossing according to time between initial symptoms and start of treatment

Time	n	OR (95% CI)	Age-adjusted OR* (95% CI)
<=1	31	1 (ref.)	1 (ref.)
1.5 -2	37	1.99 (0.71-5.53)	1.88 (0.67-5.29)
2.5-3	31	4.04 (1.38-11.86)	4.67 (1.54-14.14)
4-16	49	9.14 (3.13-26.69)	9.36 (3.16-27.70)

Logistic regression model:

dependent= physis-crossing;

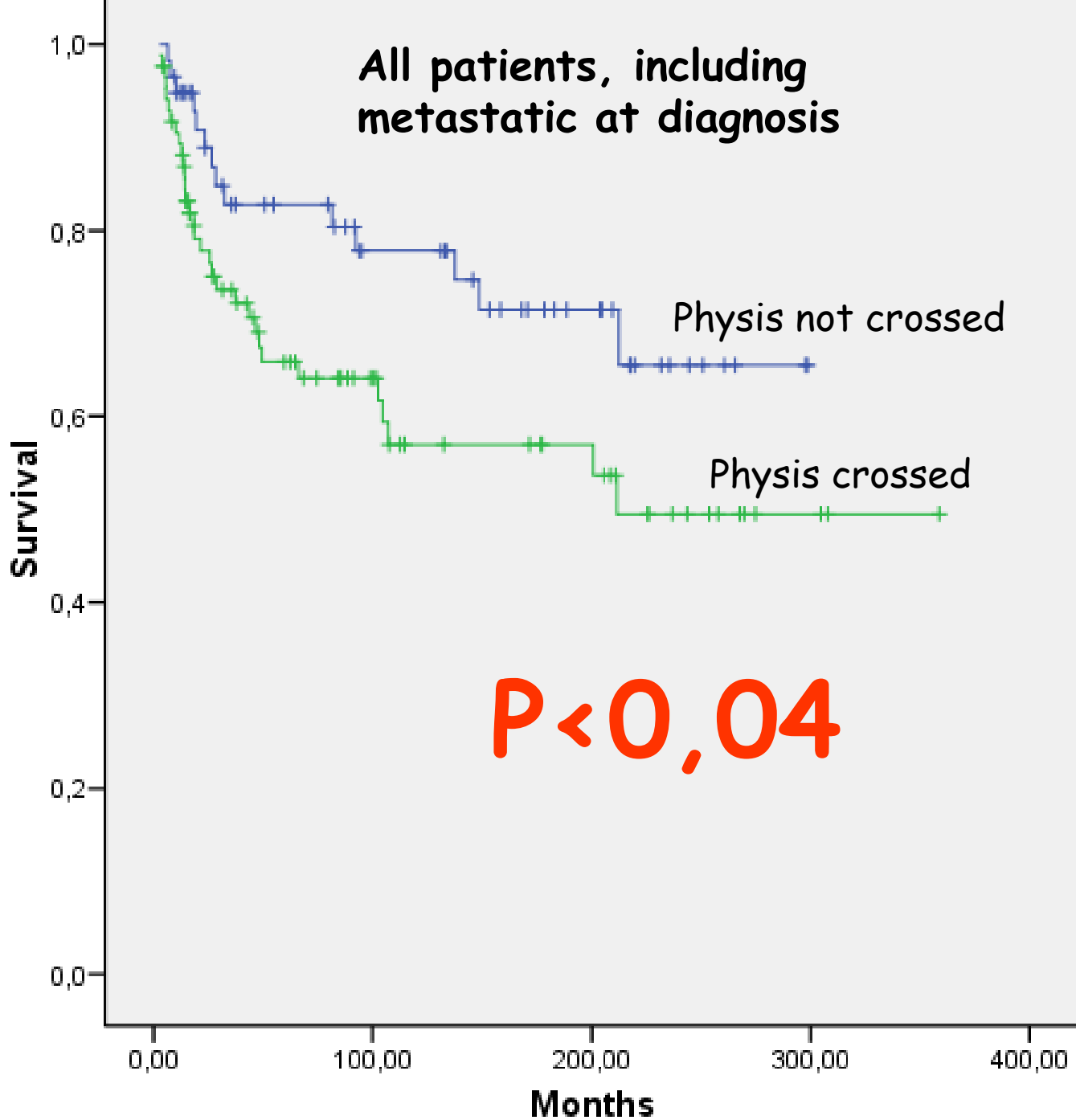
independent terms: time (3 dummy variables) and age (continuous)

Time between initial symptoms and start of treatment according to physis-crossing

	Crude Mean (95 % CI)	Age-adjusted mean*
Physis-crossing: NO	2.21 (1.90-2.53)	2.20 (1.58-2.82)
Physis-crossing: Yes	4.05 (3.40-4.69)	4.06 (3.53-4.58)

p < 0.001

*Analysis of Covariance ANCOVA (equivalent to linear ordinary least-squares regression)
 model: dependent var.=time; independent variables= physis-crossing (dichotomous)+ age (continuous)



Discussion

Tumors crossing the physis at diagnosis have worse outcome.

- Is this due to the aggressiveness of the tumour itself?

- Is this due to the **delay in starting** treatment?

Everybody is thinking this but we couldn't find it in literature..and you?

Discussion

Time from initial symptoms and diagnosis are very different in each singular case

- Capacity of suffering is different (eg.african patients)
- The concern of parents is different
- The healthcare system is different
- ...

Discussion

We cannot change the age nor the presence of metastases at diagnosis, the histological subtype...

But **WE CAN** reduce the lapse between start of symptoms and start of treatment (educational measures GP, GOP...)

CONCLUSIONS



- The youngest the patient, the highest the possibilities of epiphyseal preservation
- Regardless the age of the patient, delay in diagnosis and start of treatment (>2m) increases the possibilities of crossing the physis by the tumour in metaphyseal paediatric osteosarcoma.
- Tumours crossing the physis are more likely to have metastases at diagnosis, local recurrence and worse outcome.
- A major effort should be done to reduce the time from initial symptoms to start of treatment



Thank You!

