

Above ankle Tourniquet In children foot surgery

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Surgery on feet with a bloodless operating field

1- A pneumatic thigh Tourniquet.

(Tarver et al. 2000)

2-An Esmarch rubber bandage below the knee.

(Abraham et al.2000)

3-Calf or above ankle Tourniquet in adult.

(Finsen et al.1997)

Thigh tourniquet problems

- 1-Risk of post-operative swelling.**
- 2-Delay of recovery of muscle power.**
- 3- Compression neurapraxia.**
- 4-Wound hematoma → infection.**
- 5-Vascular injury and tissue necrosis.**
- 6- Compartment syndrome.**

(Wakai et al.2001).

Above ankle tourniquet in Children

**Prospective study
1999 - 2003**

53 Patients

29 male

24 female

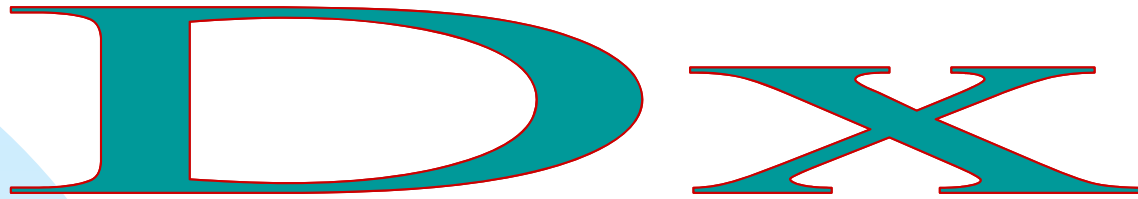
average age 8.4 y.

(range 1-14 years)

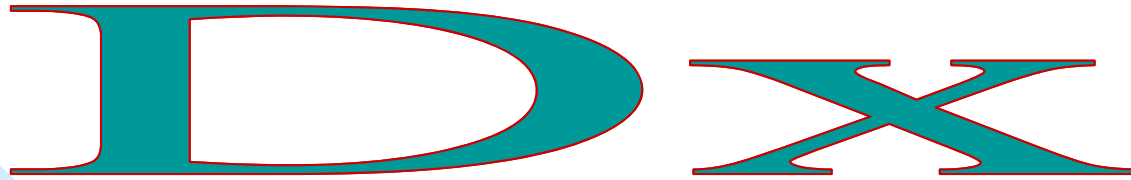
53 foot Operations

42 in- patients

11 DC surgery



- | | |
|--|----------|
| 1- Tarsal coalition | 3 |
| 2- Overlapping 5th toe | 4 |
| 3- Cal. valgus in CP | 3 |
| 4- Cavo varus foot | 8 |
| 5- Metatarsus adductus | 7 |



6- F.B	4
7- Syn., Macro., Polydactyly	8
8- Os- Navicularis, Bunnionnte	4
9- Benign tumours	6
10- Hallux V., Curly toes	4
11- Post burn contracture	2



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Exclusion from the study

- 1- Extension of pathology to the ankle**
- 2- The need to do tendon transfer.**
- 3- Malignant tumors of the foot.**
- 4- Crush injury to the foot.**
- 5- Age less than one year.**

Method of application

1- G.A

2- Cuff size

3- Adequate padding above the ankle .

4- Foot exsanguinations.

A-Rubber bandage > 5Y

B- Elevation for 3m & squeezed by hands

Pressure

Tourniquet pressure:

200 - 225 mmHg (217.92 mmHg).

Tourniquet ischemia:

39.7 minutes (6-73 minute).

ASSESSMENT

- 1- Bleeding during the operation.**
- 2- Failure of the Tourniquet.**
- 3- Post operative complications.**
- 4- Difficulty during surgery.**
- 5- Adverse effect at the site of application
e.g. pinches and wrinkles in the skin
surface.**

Results

- *All cases had excellent bloodless field.**
- *No difficulty during the operation.**
- * All cases > 5 years there was no altered sensation.**

Complications

- * Slight pinches and wrinkles, disappeared at one week.
- * 5 cases (9.4%) → mild oozing

Conclusion

Our prospective study

- 1- Did not show any morbidity to the patients.**
- 2- Did not alter the operative bloodless field.**
- 3- Did not increase the risk of complications.**

Conclusion

cont..

Above ankle Tourniquet
Is a safe and effective method to
a chief a bloodless surgical field
for foot surgery in children above
the age of 5 year.



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Above ankle tourniquets in young and adolescent children foot surgery

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Abstract

We undertook a prospective study of 53 consecutive foot surgery under general anesthesia in young and adolescent children over a 4.5-year period to assess the safety and efficacy of above ankle tourniquet in the surgery of certain pediatric foot disorders. The average age was 8.4 (1–14) years. The tourniquet pressure used ranged from 200–225 mmHg (average 217.92 mmHg). The average duration of tourniquet ischemia was 39.7 min (6–73 min). There were no post-operative complications noted with ankle cuffs. No patient has neurological complications. The above ankle tourniquet was a safe and effective means in providing a bloodless field for foot surgery in children, and provides a suitable alternative to the routine use of a thigh tourniquet in children.

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Keywords: Ankle tourniquets; Young and adolescent children; Foot surgery



Thank you