#569

10 Year Radiological Follow-up Evaluating Role of Synthetic Osteoconductive Bone Substitute to Augment Occipito-Cervical Instrumentation in Children

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CONFLICT OF INTEREST DISCLOSURE FORM

✓ I have no potential conflict of interest to report

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Type	Name of commercial company
Receipt of grants/research supports	NONE
Receipt of honoraria or consultation fees	NONE
Participation in a company sponsored speaker's bureau	NONE
Stock shareholder	NONE
Spouse/partner	NONE
Other support (please specify)	NONE

Introduction

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- Autologous bone graft in children may be immature or of poor quality.
- Bone graft donor site morbidity including pain and local wound related complications occurs in up to 73 percent of cases.
- Bone substitutes offer an alternative means of augmenting fixation.

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Objective:

Evaluate the efficacy of bone substitutes in children undergoing instrumented OCF.

Study Design:

Retrospective case review of children undergoing instrumented occipito-cervical fixation with or without decompression.

Method

- Inclusion: Occipito-cervical instability.
- Exclusion: Trauma or patients over 16 years age.
- Assessment of last available radiographs: stability/ bone formation.
- CT scan in 30% patients.

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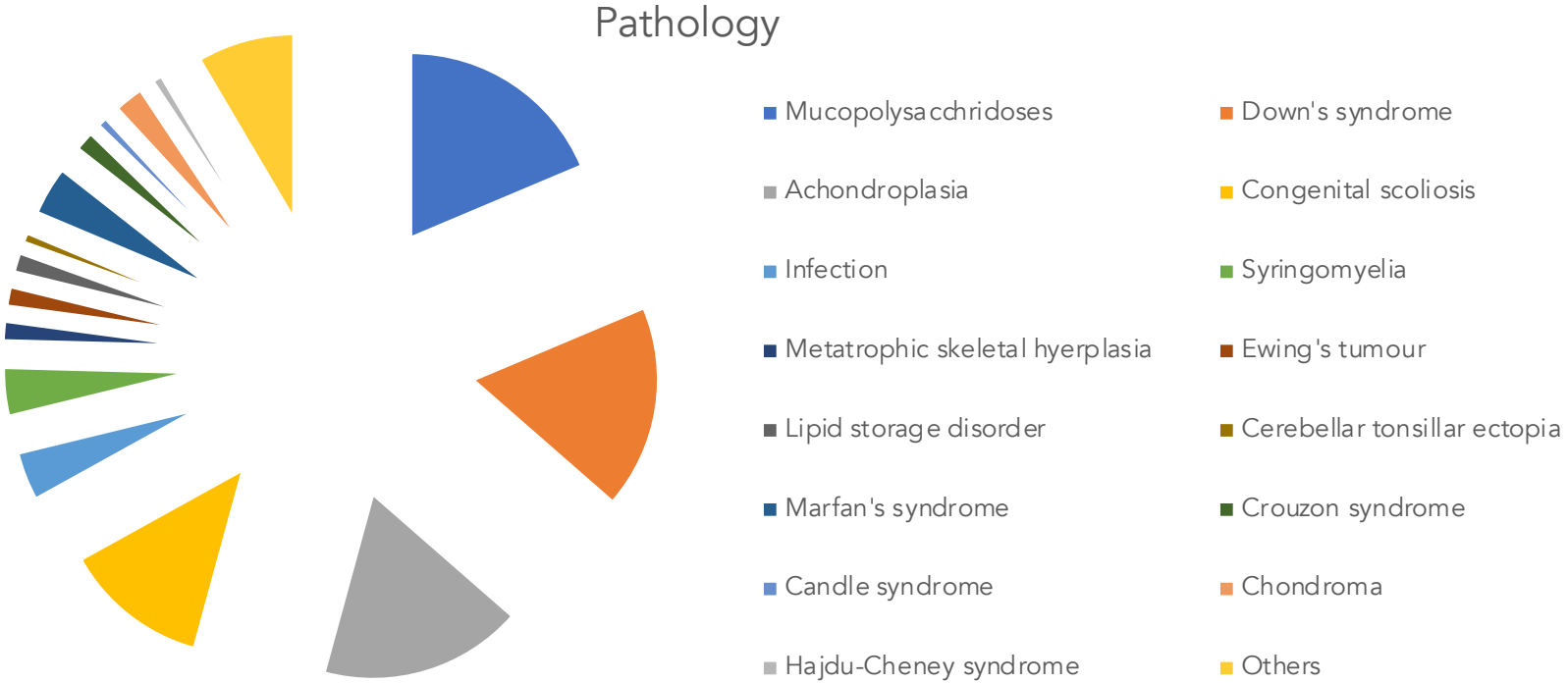
Results



A total of 118 children (mean age 8.23 years) were operated between 1993 and 2017 satisfied the inclusion criteria. Bone substitute was used in all cases.

Results

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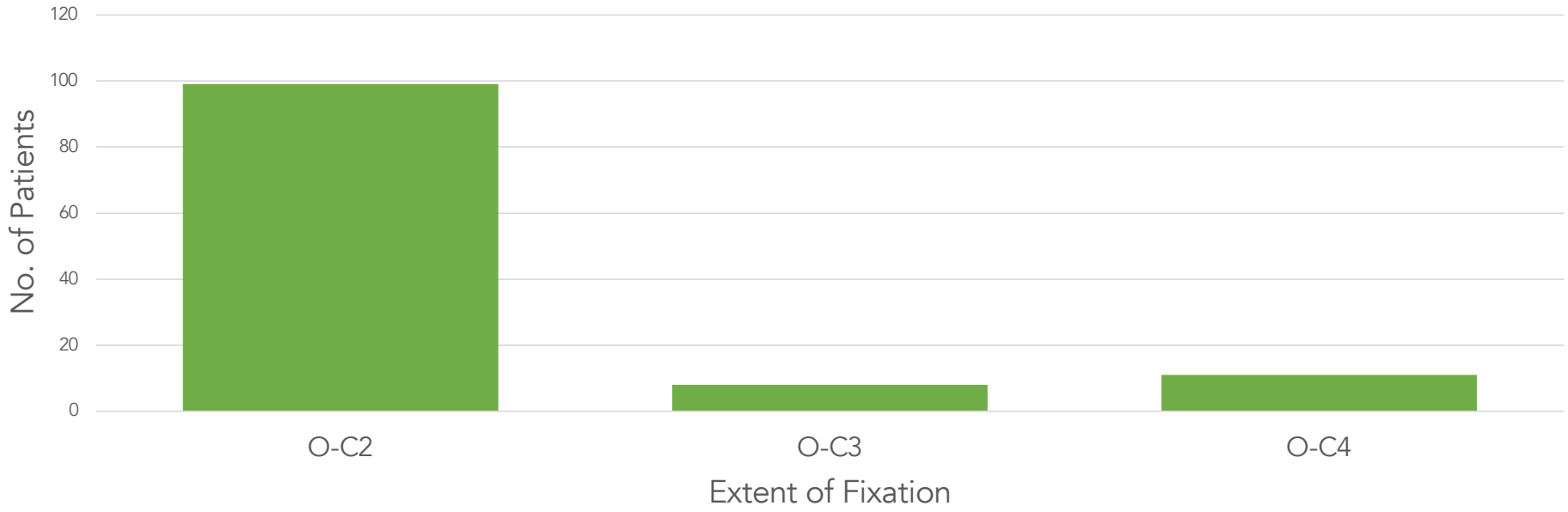

Mean follow up was 11.6 years (range 1-24y). 6 out of 118 patients died during follow up for reasons unrelated to the surgical procedure.

Results

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Complication	No. of Cases
Vertebral artery injury	01
Dural tear	02
Superficial wound dehiscence	02
Drain tube tip retention	01
Hypoglossal nerve paralysis	01
Post-op infection leading to Ventriculitis	01
Post-op Meningitis	01
Implant failure	03

Overall complication rate was 10 percent with a revision rate of 2.5 percent and **fusion rate of 100 percent**.

Take Home Message

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- ✓Osteoconductive bone substitutes can be safely use to augment OCF procedures in the paediatric population.

- ✓Rates of successful fusion and wound related complications are comparable to contemporary series using autologous bone graft.

Thank You