

ABSTRACT SUBMISSION FORM

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CHR D 2020: Abstract Submission Form

Submitter Name

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Title

Osteoporosis Risk Factors in Children with Cerebral Palsy

Background

Cerebral palsy (CP) is a common motor disability in children. Due to their medical complexity, children with CP are prone to osteoporosis and consequently fractures. The prevalence of osteoporosis and its risk factors is poorly understood within this population.

Objective

Our goal is to determine the prevalence and predictors of osteoporosis in children living with CP in Newfoundland and Labrador (NL).

Methods

We performed a retrospective descriptive cohort study in a single tertiary care pediatric hospital in NL. The medical charts of the 187 children with CP currently followed by the Janeway rehabilitation team were reviewed. Primary outcomes were indicators of osteoporosis, including vertebral compression fractures (VCF), long bone fractures and BMD Z-score. Osteoporosis risk factors, including medications, chronic or endocrine disorders linked to secondary osteoporosis, feeding method, and mobilization level (GMFCS), were collected. Two-tail p-values were calculated using the Chi-squared Person's cumulative test.

Results

Of the 187 included children, the majority were male (59%) and were living in rural area (62%). 7 (3.7%) individuals met diagnostic criteria for osteoporosis with a VCF without history of high-energy trauma or local disease. Of these, 4 were females and 3 were males. Osteoporosis risk factors are presented in Table 1.

GMFCS, feeding method and medications linked to secondary osteoporosis had a significant statistical difference in the children diagnosed with a VCF compared to participants without osteoporosis diagnostic criteria.

Conclusion

3.7% of children followed by the Janeway rehabilitation team have osteoporosis. This is one of the first studies that establishes the frequency of osteoporosis among a provincial cohort of Canadian children with CP. Mobilization level, feeding method and consumption of medications linked to secondary osteoporosis seem to be major risk factors for osteoporosis in children with CP. Larger prospective studies are needed to confirm this association, in order to improve prevention strategies.

Theme:

Clinical

Do you have a table/figure to upload?

Yes

Untitled

Table 1.pdf

Are you willing to participate in Goodbear's Den?

Yes

Presenter Status:

Residents

What was your role in the project?

Design, analyse data and write abstract

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Table 1. Low bone mass risk factors in participants diagnosed with osteoporosis.

Osteoporosis	Medications linked to osteoporosis (%)	Medications improving bone health (%)	Chronic Illnesses (%)	Endocrine Disorders (%)	G-tube Feeding (%)	GMFCS 4-5 (non-ambulatory) (%)
Present (n= 7)	6 (86)	2 (29)	0	0	4 (57)	6 (86%)
Absent (n=180)	72 (40)	44 (24)	5 (3)	0	18(10)	53 (29%)
P-value	0.016	0.804			<0.001	0.002