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# A five year retrospective study on maternal characteristics and neonatal outcomes of newborn clavicular fractures

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## Introduction

Newborn clavicular fractures occurred at a rate between 0.2% and 4.5%. The diagnosis is usually made clinically and confirmed by plain radiograph. Clavicular fractures heal spontaneously within four to six weeks and are without long term sequelae. However, it leads to distress to both parents and health care providers. Up to 40% of cases were diagnosed after discharge.

## Objectives

To compare the maternal characteristics and neonatal outcomes of newborn clavicular fractures in early diagnosis vs that in late diagnosis. To provide reassurance to parents and public that newborn clavicular fracture is a self-limiting condition with good prognosis.

## Methodology

Retrospective data analysis was performed on all cases of newborn clavicular fractures in Kwong Wah Hospital from 1st Jan 2006 to 31st Dec 2010. 188 cases of newborn fractures clavicles were identified. Early diagnosis was defined as diagnosis made before or on day 3 of newborn life while late diagnosis was defined as diagnosis made after day 3 of newborn life. Chi squared test and Fisher's exact test were used for categorical data. For continuous variables, descriptive statistics were calculated and reported as means +/- standard deviation (SD) and were compared by group using the Student's t-test for independent samples.

## Result

The overall rate of newborn fractured clavicles was 0.65%. Majority of cases came from vaginal deliveries (185/188, 98.4%). 67% and 90% cases were diagnosed in the first 3 days and within 7 days respectively. 28% of cases were diagnosed in readmission. The group with early diagnosis had higher mean birth weight (3550+/-450gram vs 3410+/-370gram, p 0.021), more with birth weight 4000-4999gram (14.2% vs 3.3%, p 0.023), longer body length (51.5+/-2.5cm vs 50.8+/-1.7cm, p 0.015), more with Apgar score <7 at 1 minute (11% vs 0%, p 0.005),

meconium stained liquor (29.9% vs 16.4%, p 0.046), incidental diagnosis made on chest x-ray (26.8% vs 8.2%, p 0.003), neonatal jaundice (39.4% vs 68.9%, p 0.000) and sepsis (39.4% vs 21.3%, p 0.014). Almost all cases were assessed by orthopaedic surgeons. All cases recovered fully without any neurological deficits. The maternal characteristics for both groups were similar. We concluded that newborn clavicular fracture is an unavoidable and not uncommon condition. It carries good prognosis. Parents should be reassured of its self-limiting nature irrespective of whether it is diagnosed early or late.