

# Pregnancy and Lactation associated Osteoporosis (PLO) – A Clinical “Red Flag”

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## Introduction

Pregnancy and Lactation associated Osteoporosis (PLO) is a severe and rare pathology that may occur during late pregnancy and the postpartum period, resulting in vertebral compression fractures and severe back pain. PLO is a premenopausal type of osteoporosis, with an unclear pathogenesis and etiology.

**No accepted diagnostic criteria currently exists.**

## Methods and Materials

This is a case series presentation of 4 patients with PLO who were clinically assessed in a Pelvic Girdle Pain (PGP) outpatient clinic during the last couple of years.

Clinical findings were collected to identify common clinical patterns relevant to the condition.

informed consent was gained from all patients.

| Patient                   | 1      | 2      | 3      | 4      |
|---------------------------|--------|--------|--------|--------|
| Age                       | 25     | 35     | 32     | 38     |
| Pregnancy No.             | 1st    | 1st    | 1st    | 2nd    |
| Lactation                 | +      | +      | +      | +      |
| Body Structure            | slim   | normal | normal | normal |
| Diagnosis time            | 16w PP | 12w PP | 10wPP  | 8wPP   |
| Spinal fracture No. (MRI) | 5      | 5      | 8+     | 8      |
| DEXA spine                | -4.3   | -3.3   | -3.6   | -4.5   |

Table 1: patient presentation.

## Purpose/Aim

This presentation aims to increase Women's Health and Musculoskeletal physiotherapist's awareness to this rare pathology by highlighting the clinical findings that suggest “Red Flags”.

Early diagnosis is important to prevent further bone damage and an increased number of vertebral fractures.

**Once PLO is diagnosed breastfeeding should be avoided.**

## Results

\* All patients were first diagnosed as having Pregnancy-related PGP. They were breastfeeding and none had back pain before. All noticed gradually increasing back pain during the lactation period, followed by a benign incidence of forward bending resulting in sudden disabling excruciating pain.

\* Clinical examination revealed no indication of PGP: Pain localized mainly above the Posterior Superior Iliac Spine (PSIS) level. No limping or pain aggravation during walking. **Dramatically painfully reduced lumbar spine range of motion (ROM) mainly into flexion.** No neural tissue involvement (SLR/SLUMP).

\* Patients were sent for x-ray, demonstrating reduced vertebral height and wedging. Further Magnetic Resonance Imaging (MRI) showing compression vertebral fractures and dual-energy x-ray absorptiometry (DEXA) concluded the diagnosis of PLO.

## Discussion

Compared to the literature in which it is described that 90% of women with PLO suffer from a mean of 3.3 fractures, the minimal number of fractures in this case series was 5 (with a mean of 7). The relative higher prevalence in the first pregnancy is also shown here. **To the best of my knowledge, this is the first publication about clinical findings for the diagnosis of PLO.**

## Conclusions

Thorough physical examination and clinical reasoning can be used as a good first-step screening tool, for an early diagnosis of PLO. This is the preferred option for clinical screening before an expensive MRI examination can be done to evaluate detailed pathologies. In an era where physiotherapy is gradually becoming a self-referral profession in an increasing number of countries, the need to use essential physiotherapy practice to screen our PGP patients also increases.



Figure 1: PLO Fractures A/P and Lat view.

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