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### RESEARCH ARTICLE

## DEMOGRAPHIC FEATURES AND ETIOLOGY OF WOMEN HAVING PELVIC GIRDLE PAIN AND LOW BACK PAIN IN PREGNANCY.

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### Abstract

**Introduction:** Symphysis pubis dysfunction (spd) has been recognized as an obstetric condition since the time of Hippocrates. In spite of this long history, many medical staff remain unaware of the condition. Women continue to suffer from symphysis pubis pain with considerable reduction in quality of life during pregnancy. In recent years there has been an upsurge in the reported incidence of spd partly due to gross previous under recognition.

**Methodology:** This is a retrospective observational study. In this study we studied a total of 56 pregnant women, who were referred to department of orthopedics of Darbhanga medical college and hospital, for back pain, over a period of 6 months, from January 2018 to July 2018. The obstetrical team referred the patients, after ruling out obstetric complications (preterm labor, abruption, red degeneration of uterine fibroid, round ligament pain, and chorioamnionitis), and urinary tract infections.

**Observations:** Most of the patients were aged 25-30, and maximum patients were second or third time pregnant. This table shows that the maximum no 28/56 (50%) of patients had pelvic girdle pain, followed by plbp 15/56 (26.78%).

39/56 (70%) of patients were relieved by these simple measures, and physical therapy. Pharmacotherapy. A total of 12/56 (21.42%) patients needed pharmacotherapy.

**Conclusion:** Pgp and plbp are common problems, but they are often underestimated and undertreated. A large number of terms for these conditions have been used in the literature, and there is a need for a uniform terminology in order to promote research and management of these conditions.

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### Introduction:-

Symphysis pubis dysfunction (SPD) has been recognized as an Obstetric condition since the time of Hippocrates. In spite of this long history, many medical staff remain unaware of the condition. Women continue to suffer from

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symphysis pubis pain with considerable reduction in quality of life during pregnancy. In recent years there has been an upsurge in the reported incidence of SPD partly due to gross previous under recognition

The symphysis pubis is a non-synovial cartilaginous joint. The stability of this joint is integral to the function of the pelvis. SPD occurs when the symphysis pubis is unable to effectively perform its role in pelvic stabilization. The wide variation in the incidence of SPD quoted in the literature is due in part to the various names given to this condition.

### Epidemiology

In one study of the British population, the incidence of SPD varies from 1:360.3% to 2.77%.<sup>(1)</sup>

Although the vast majority of studies on PGP/PLBP has been carried out in Scandinavia, studies have also been carried out in The Netherlands, <sup>(2)</sup>the U.S.A.,<sup>(3)</sup> the U.K.,<sup>(4)</sup> Australia,<sup>(5)</sup> Africa,<sup>(6)</sup> Iran,<sup>(7)</sup> and Israel,<sup>(8)</sup> indicating that PGP and PLBP are universal problems.<sup>(9)</sup> Studies report a wide range of prevalence (4% to 76%) of PGP and/or PLBP.<sup>(10)</sup> This variation is a result of the criteria employed by various studies for the diagnosis of PGP and/or PLBP (patient self-report, doctor's report, or history and clinical examination as diagnostic criteria), design of the study (prospective or retrospective), sample size, and location of the pain in the back.<sup>(10)</sup>

### Pathology

The aetiology of Symphysis pubis pain remains unknown. It is however well known that during pregnancy there is relaxation and weakness of pelvic ligaments and joints under the influence of maternal hormones (mainly relaxin). Pelvic ligament weakness leads to instability in the joints. This instability may be sufficient to cause the movement of the bone ends at the symphysis pubis thus stimulating mechanoreceptors with a nociceptive function and resulting in pain. The articular surfaces of the pubic joint are lined with a thin layer of hyaline cartilage and joined by a fibrocartilaginous disc resulting in an average gap of about 5 mm between the pubic bodies [11]. This interpubic gap increases by an average of about 3 mm by the third trimester of pregnancy returning back to non-pregnant dimensions by 3 to 6 months after delivery. A pubic gap of more than 10 mm is often quoted as being abnormal [12].

### Clinical Features

PGP and PLBP usually start around the 18th week of pregnancy (peak intensity between 24th and 36th weeks), but can also start in the first trimester or be delayed as late as 3 weeks after delivery.<sup>(13)</sup>

PLBP is characterized by lumbar region pain. It is dull in character and is experienced when the patient is in forward flexion. There is restriction of spine movement in the lumbar region, and palpation of the erector spinae muscles exacerbates pain.<sup>6</sup> The pain resembles the back pain that occurs in the nonpregnant state.<sup>(14)</sup>

PGP Vleeming et al. have defined PGP as: "In PGP pain is experienced in-between the posterior iliac crest and the gluteal fold, particularly in the vicinity of the sacroiliac joints (SIJ). The pain may radiate into the posterior thigh and can also occur in conjunction with/or separately in the symphysis pubis."<sup>(15)</sup> The pain has been described as stabbing, shooting, dull, or burning.<sup>(16)</sup> The average visual analog score for pain is 50 mm to 60 mm on a 100-mm scale.<sup>(17)</sup>

### Making The Diagnosis

Excluding Serious Pathology For women presenting with low back pain and/or pelvic pain in pregnancy, a thorough history and physical examination should be carried out. The aim is to exclude other causes of pain (Table 3), to differentiate between PGP and PLBP, to assess disability, and to formulate an individualized management plan.

**Table 1:-Differential Diagnosis of PGP and PLBP**

Urinary tract infection	Spondylolisthesis
Osteomyelitis	Pregnancy-associated osteoporosis
Lumbar disk lesion/prolapse	Femoral vein thrombosis
Arthritis of spine/hip	Osteitis pubis

Lumbar stenosis Cauda equina syndrome	Rupture of symphysis pubis Sciatica
Obstetric complications (preterm labor, abruption, red degeneration of uterine fibroid, round ligament pain, and chorioamnionitis)	

### PGP, pregnancy-related pelvic girdle pain; PLBP, pregnancy-related low back pain.

**Pain Provocation Tests** A number of pain provocation tests have been described for the diagnosis of PGP. Majority of these tests have high specificity but low sensitivity,(10)indicating that if a test is negative, then the patient is unlikely to have PGP. It is recommended to perform as many tests as possible, taking into account the low sensitivity of the tests.(10)The posterior pelvic pain provocation test, Patrick's test, and the long dorsal sacroiliac ligament test are recommended for the diagnosis of the pain in the region of SIJs.(18) For pubic symphysis pain, direct palpation of the symphysis pubis, modified Trendelenberg's test, and active straight leg raising tests are recommended.(18).

### Methodology:-

This is a retrospective observational study.In this study we studied a total of 56 pregnant women , who were referred to Department of Orthopedics of Darbhanga Medical College and Hospital, for back pain, over a period of 6 months, from January 2018 to july 2018.The Obsterical team referred the patients , after ruling out Obstetric complications (preterm labor, abruption, red degeneration of uterine fibroid, round ligament pain, and chorioamnionitis), and urinary tract infections

### Observations:-

**Table 2:-**Demographic details of the patients

Age in years	No of patients(n-56)	percentage
20-25	22	39.28
25-30	19	33.92
30-35	15	26.78
parity		
P1	8	14.28
P2-3	22	39.28
P4 and above	16	28.57

So we can say that most of the patients were aged 25-30, and maximum patients were second or third time pregnant.

**Table 3:-**Definite Diagnosis of the patients with back ache with pain provocation tests

Diagnosis	No of patients(n-56)	percentage
Pelvic girdle pain	28	50
Pregnancy related low back pain(PLBP)	15	26.78
Osteomyelitis	2	3.57
Lumbar disk lesion/prolapse , Lumbar stenosis Cauda equina syndrome Spondylolisthesis	1	1.78
Arthritis of spine/hip	3	5.35
Pregnancy associated osteoporosis	2	3.57
others	5	8.92

This table shows that the maximum no 28/56 (50%) of patients had pelvic girdle pain, followed by PLBP 15/56(26.78%).

### Treatment Options

**Table 4:-**Various treatment measures offered to patient

Treatment modality	No of patients	percentage
simple measures, and physical therapy	39/56	70%
Pharmacotherapy	12/56	21.42%
No treatment found effective	5/56	8.92%

**The following simple measures were found very useful to patients. 39/56(70%)of patients were relieved by these simple measures, and physical therapy**

- keeping active but also getting plenty of rest
- standing tall with your bump and bottom tucked in a little
- changing your position frequently – try not to sit for more than 30 minutes at a time
- sitting to get dressed and undressed
- putting equal weight on each leg when you stand
- trying to keep your legs together when getting in and out of the car
- lying on the less painful side while sleeping
- keeping your knees together when turning over in bed
- using a pillow under your bump and between your legs for extra support in bed. One should avoid anything that may make your symptoms worse, such as:
- lifting anything heavy, for example heavy shopping
- going up and down the stairs too often
- 3 • stooping, bending or twisting to lift or carry a toddler or baby on one hip
- sitting on the floor, sitting twisted, or sitting or standing for long periods
- standing on one leg or crossing your legs.

### Physical Therapy.

The use of devices as simple as a pillow in the shape of a nest has been found to be useful in decreasing pain and insomnia during late pregnancy.(19) The pillow supports the abdomen when the woman is in the lateral recumbent position and appears to relieve symptoms. Other devices that can be used include a lumbar roll placed behind the lower back (while resting with feet slightly elevated), abdominolumbar supports,(20) and sacroiliac belts.(21)

### Transcutaneous Electrical Nerve Stimulation.

There are no randomized controlled trials of transcutaneous electrical nerve stimulation (TENS) in pregnancy except for in labor. There have been theoretical concerns about stimulation of certain acupuncture points (which have been used to induce labor), fetal malformations, and passage of current through fetal heart while using TENS. However, no negative effects have been reported from the use of TENS during any stage of pregnancy.(22)

No patients were offered TENS or acupuncture, due to lack of resources and expertise

### Acupuncture.

The use of acupuncture for PGP/PLBP is increasing.(23) Most studies are controlled trials of series of small numbers of patients, and they suffer potential bias from their lack of blinding of both the patient and the investigator. The acupuncturist must avoid certain acupuncture points in pregnancy that supply the cervix and uterus (which have been used to induce labor), but the technique in general is considered to be safe. The majority of the older studies has found that acupuncture provides effective analgesia to women with PGP and/or PLBP in pregnancy.(23) A recent randomized double-blinded controlled trial in 115 patients diagnosed with PGP has shown that acupuncture had no significant effect on pain or on the degree of sick leave compared with nonpenetrating sham acupuncture, although there was some improvement in performing daily activities.(24) However, acupuncture has been widely shown to be of benefit in the management of chronic lower back pain.(24)

### Pharmacotherapy. A total of 12/56 (21.42%) patients needed pharmacotherapy.

There are no studies on the use of drugs in PGP/PLBP in pregnancy. Although paracetamol is considered safe in pregnancy, it does not seem to be very effective on its own for these conditions. The use of nonsteroidal anti-inflammatory drugs (NSAIDs) is not associated with fetal malformations before 30 weeks of pregnancy. However, the majority of women is unlikely to require treatment for PGP/PLBP in early pregnancy. NSAIDs are generally withheld in the last trimester of pregnancy because of the risk of premature closure of the ductus arteriosus and the risk of oligohydramnios.(25) NSAIDs can be used safely after delivery in breast-feeding mothers. Opioids such as morphine, codeine, meperidine, tramadol, hydrocodone, fentanyl, propoxyphene, and oxycodone are included in category C of the pregnancy risk category by the "Food and Drug Administration." The use of opioids in late

pregnancy and in breast-feeding mothers can result in respiratory depression in the neonate, and withdrawal effects in newborns of mothers on long-term opioids.(26)

### **Epidural Analgesia.**

There is a potential role for epidural analgesia in the management of severe PGP/PLBP, but it has not been properly evaluated and the evidence, as it is, is restricted to a few isolated case reports

### **Induction of Labour**

Induction of labour (after 38 weeks gestation) is often offered as a last resort if nothing else works. Ultimately delivery always seems to eventually relieve the symptoms of SPD. The potential for failed induction of labour (particularly in primiparas with an unfavourable cervix) must be discussed before induction of labour is embarked upon. It is important for both midwives and doctors to be aware of the implications of SPD during labour. Separation of legs should be kept to a minimum and vaginal examinations should be performed in a position that is most comfortable to the woman. The masking effect of epidural analgesia/spinal anaesthesia must always be remembered as it is quite easy to excessively abduct the hips if this is forgotten. Lithotomy, if required (e.g. for assisted delivery or suturing) should be for the shortest time possible. Post-Natal Management Following delivery analgesia should be continued as symptoms may not resolve immediately. NSAIDs can now be used. Comprehensive physiotherapy may have to be continued for a few days before symptoms eventually disappear.

### **Conclusion:-**

PGP and PLBP are common problems, but they are often underestimated and undertreated. A large number of terms for these conditions have been used in the literature, and there is a need for a uniform terminology in order to promote research and management of these conditions.

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