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# Sonographic Diagnosis of Pregnancy-associated Symphysis Pubis Diastasis

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## INTRODUCTION

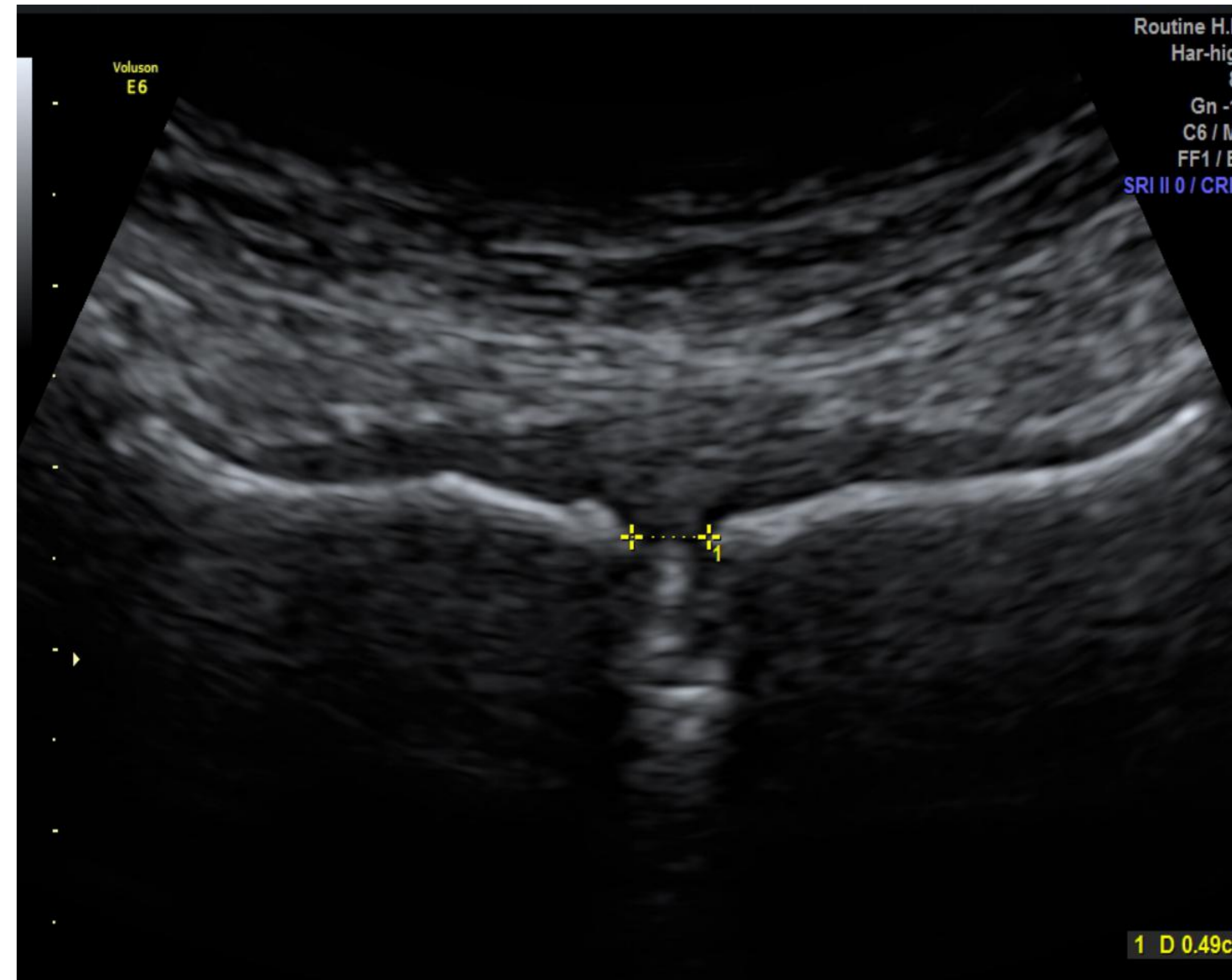
Symphysis pubis diastasis occurs in approximately 1:300-1:30,000 pregnancies, presenting with a wide-spectrum of severity ranging from mild discomfort to severe, debilitating pain. As a result, the clinician has to contend with several differential diagnoses ranging from lower urinary tract infection, caesarean scar tenderness to preterm labour. In the non-obstetric population, pelvic radiographs are widely used to aid diagnosis although this may result in increasing alarm and anxiety to the pregnant mother.

We sought to establish the feasibility of using ultrasound in measurement of the symphysis pubis gap (SPG) in symptomatic women.

## METHODOLOGY

This was a pilot prospective case-controlled study to evaluate the symphysis pubis gap in symptomatic women during the peripartum period, conducted between March-September 2017. A total of 20 patients were assessed and cases were matched for gestational age, parity, body mass index and previous vaginal birth. Mode of delivery was also controlled for in postpartum patients. The case to control ratio was 1:4.

Sonography was performed with women in supine position, using a 5 MHz curvilinear transducer in a transverse scanning plane. Two designated operators performed the scan using either Voluson E6 or Philips HD15. SPG was measured at the narrowest point of upper margin of the symphysis pubis joint. Three consecutive measurements were recorded and the average taken. Effect size of measurements were estimated using partial eta squared.

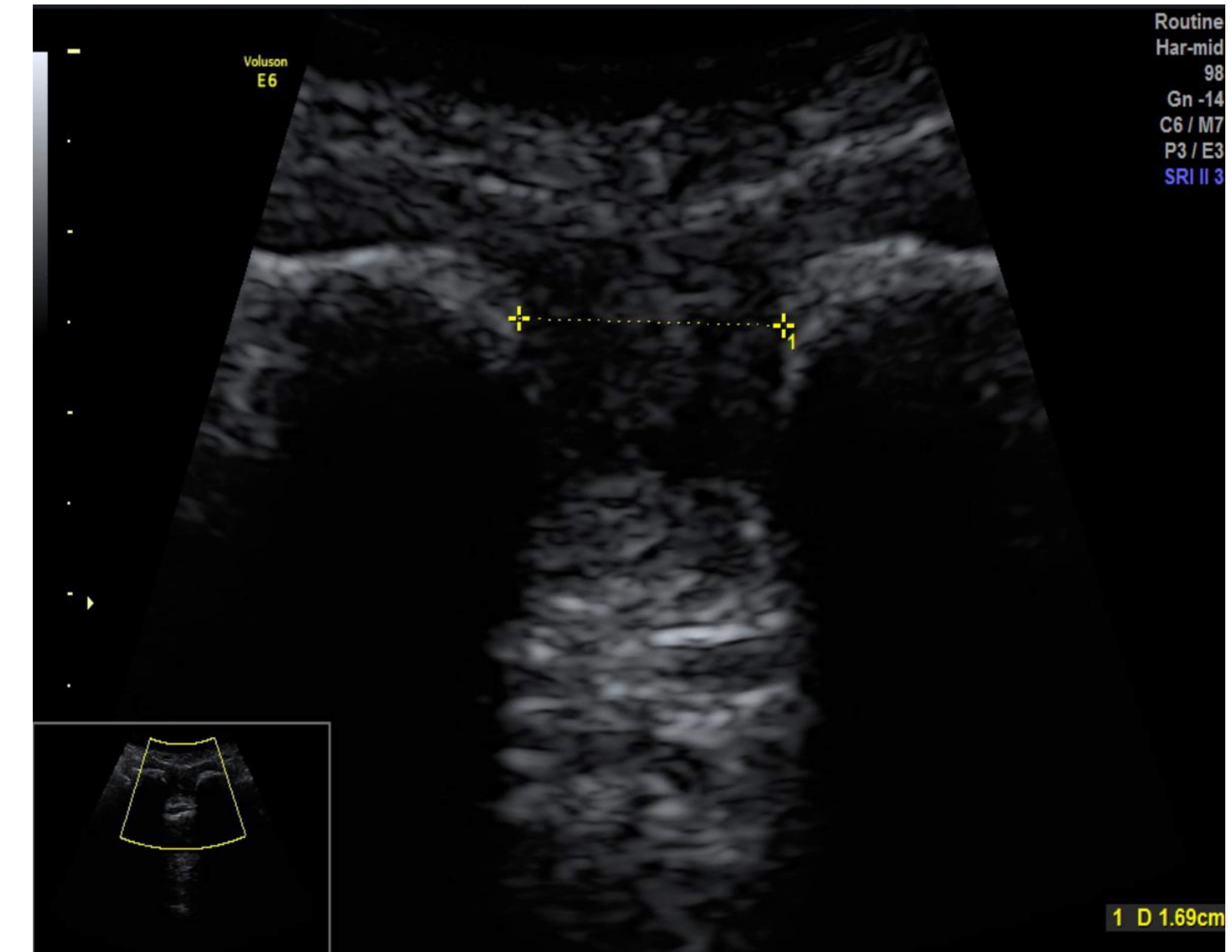


Panoramic view of a normal symphysis pubis gap

## RESULTS

The mean SPG amongst symptomatic postnatal women (n=3) compared to matched-controls (n=12) were 14.5mm vs 8.8 ±1.5 (effect size 0.79), 10.1mm vs 5.9 ±1.2 (effect size 0.76) and 7.6mm vs 6.0 ±0.7 (effect size 0.58) respectively.

Only one antenatal patient had symptoms suggestive of symphysis pubis diastasis during the study period, presenting at 33weeks of gestation. The SPG was 17.0mm compared to 5.7 ±1.0 in controls (effect size 0.971).



Widened symphysis pubis gap in a symptomatic patient

## CONCLUSION

Both antenatal and postnatal women with symphysis pubic diastasis had wider SPG when controlled for gestational age, parity, body mass index, previous vaginal birth and mode of delivery. The effect size measured was large in all cases and moderate in one, reflecting the potential usefulness of sonography. Larger studies are required to determine if a threshold value could be reliably used to establish a diagnosis.