

POLYCYSTIC OVARIES: A COMMON FEATURE IN TRANSVAGINAL SCANS OF GYNAECOLOGICAL PATIENTS

F.A. Bello¹ and A.O Odeku²

1. Department of Obstetrics and Gynaecology, College of Medicine, University of Ibadan, Ibadan, Nigeria
2. Adeola Odeku Ultrasound Centre, Kongi, New Bodija, Ibadan, Nigeria

Correspondence:

Dr. Folasade A. Bello

Dept. of Obstetrics and Gynaecology,
University College Hospital,
PMB 5116, Ibadan,
Nigeria.

E-mail: dr.nikebello@yahoo.com

Phone: +2348037084505

BACKGROUND

Polycystic ovaries (PCO) are described on ultrasound scan as the “presence of 12 or more follicles in each ovary measuring 2–9 mm in diameter, and/or increased ovarian volume (>10 ml)”¹. Polycystic ovarian syndrome (PCOS) or disease (PCOD) is diagnosed when polycystic ovaries are associated with chronic anovulation and clinical and/or biochemical androgen excess (typically featured as oligo-amenorrhoea and hirsutism/acne, respectively). The Rotterdam criteria¹ for diagnosis require any two of the three features. Unilaterality does not affect diagnosis; neither does the location of the cysts in the ovary.

PCOS is associated with infertility, as well as obesity, insulin resistance and hyperinsulinaemia, leading to impaired glucose tolerance¹. Obesity and hyperinsulinaemia individually result in increased androgen production¹. In most women, management includes lifestyle modifications towards weight loss. Oral hypoglycaemic agents help to improve insulin sensitivity; some women start to have regular periods with the use of metformin only². PCOS is a diagnosis of medical interest, as associations with important non-communicable diseases have been made—notably, the metabolic syndrome. This comprises: insulin resistance, obesity, hypertension and dyslipidaemia, which significantly increase the woman’s risk of cardiovascular disease³. This makes the evaluation of PCOS in the study environment of a wider interest beyond infertility.

Prevalence of polycystic ovarian syndrome is up to 10-26% of reproductive age group women in the Western world^{4,5}, but only 0.6% of reproductive age-group gynaecological cases was reported from Nigeria⁶. Polycystic ovaries (PCO) were seen on

ultrasound scans in 33% of the previously referenced population in which 26% were diagnosed with PCOS⁵.

This study aimed to document the prevalence of polycystic ovaries amongst women who had gynaecological ultrasound scans at an ultrasound diagnostic centre in Ibadan, Nigeria.

METHODS

This was a retrospective review of 671 gynaecological transvaginal scans (TVS) performed over a year at a female-reproductive health ultrasound diagnostic centre in Ibadan, Nigeria. All obstetric TVSS were excluded. All scans were performed with a 5.0 MHz or 6.0 MHz transvaginal probe (Hitachi Aloka Medical Ltd., Tokyo, Japan and Chison Medical Imaging Co. Ltd., Wuxi City, Jiang Su Province, China, respectively). Probes were sheathed in lubricated latex condoms before use. Data were analysed with IBM SPSS Statistics 20 by simple frequencies and means.

RESULTS

One hundred and five clients had polycystic ovaries by the Rotterdam definition¹; a proportion of 15.6%. Most of these clients were in the 20-29 years’ age range,

Table 1: Indications for gynaecological transvaginal scan

Indications	No (%)
Amenorrhoea	8 (7.6)
Oligomenorrhoea	23 (22.0)
Infertility	39 (37.1)
Lower abdominal pain	6 (5.7)
Uterine/ovarian assessment	19 (18.1)
To rule out pregnancy	6 (5.7)
Dysfunction uterine bleeding	4 (3.8)

with a mean age of 27.6 ± 5.7 years. Infertility (37.1%) was the most common indication for the TVS, followed by oligo-amenorrhoea (29.6%). Table 1 shows the indications. Fifty-seven (54.3%) women had unilateral polycystic ovaries; the rest (45.7%) had bilateral. Data on hyperandrogenism were not collected, however, using the available features of the Rotterdam criteria (PCO morphology and oligo-amenorrhoea), at least 31 (29.5%) of these clients have PCOS.

DISCUSSION

About a sixth of the women in this series had polycystic ovaries, while a third fulfilled the limited available criteria for PCOS. This indicates that the syndrome may be more common than was previously diagnosed in the study environment⁶. The significance of this is not known. A limitation of previous assessment might have been due to the use of the transabdominal ultrasound route, which is not as sensitive as the transvaginal probe for evaluating the pelvis; and particularly the ovary. This will suggest that PCO prevalence has not necessarily increased; but rather the sensitivity of the diagnostic measure improved. If, however, the prevalence did increase, it may be due to an association with an increase in obesity and impairment of glucose intolerance that is emerging in the study environment. Lifestyle changes have occurred over the years: modern occupations are more sedentary, more people have cars and therefore walk less, and there is a surge in availability of fast food outlets and increase in refined sugar in diet. Obesity is not the cause of PCOS, of course; however, simple obesity is also associated with insulin resistance, and can therefore initiate the cascade of hyperinsulinaemia, excess androgen production and anovulation⁷. It has been suggested that the presence of polycystic ovaries alone should alert clinicians to advise women to avoid weight

gain, which causes a worsening of the syndrome and greater long term morbidity⁸.

The review identifies PCO morphology, which does not always translate into PCOS—its interpretation is thus limited. As a follow-up to this, the authors are currently prospectively evaluating associations of PCO, and it is hoped that this would contribute to the knowledge of the epidemiology in the study environment.

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