ORIGINAL SCIENTIFIC PAPER

CASE REVIEW

Polycystic ovary syndrome: a review of cases from general practice

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ABSTRACT

This paper reports a review of 55 cases of polycystic ovary syndrome by general practice registrars in the Waikato region of New Zealand. In addition to demographic data, presenting symptoms, diagnostic tests, associated conditions and treatment post-diagnosis are discussed. The majority of cases (76%) were first diagnosed by the general practitioner. The review suggests there may be a need for better recording of key diagnostic criteria and that ultrasound is being widely used as a diagnostic test despite local guidelines discouraging its use if other appropriate diagnostic criteria are met.

KEYWORDS: Case reports; diagnostic tests; general practice; polycystic ovary syndrome

Introduction

Polycystic ovary syndrome (PCOS) is principally managed in general practice. It is the commonest cause of infertility and is said to be the most common endocrinological disorder among women in the reproductive age group.[1,2] International studies generally report up to 10% of women in the reproductive years being affected,[3,4] though they also suggest it is underdiagnosed.[5,6] Polycystic ovaries are commonly seen on ultrasound examination—21% of otherwise healthy women randomly selected in a New Zealand (NZ) community study were found to have polycystic ovaries, although this does not necessarily imply that they have the syndrome.[7] The criteria used for the diagnosis of PCOS are heterogeneous.[1,8,9] The commonly used post-Rotterdam consensus conference (2003) definition states the diagnosis of PCOS is made only after exclusion of other disorders and inclusion of two out of the following three criteria:[10]

- oligomenorrhoea and/or anovulation
- clinical signs (hirsutism, acne or androgenic alopecia) or biochemical signs of hyperandrogenism (raised testosterone or dehydroepiandrosterone (DHEA)
- polycystic ovaries on ultrasound.

There are well-recognised associations between PCOS, infertility and obesity. Obesity is also associated with impaired glucose tolerance, and women with PCOS have increased risk of Type 2 diabetes.[11] Differences in the presentation of PCOS have been shown in different ethnic groups in New Zealand—Indian women had higher rates, while despite increased rates of obesity, Māori and Pacific women were not over-represented.[12] There are numerous guidelines on the management and treatment of PCOS.[13–15] This study examined the characteristics and management of a selection of cases identified with PCOS in general practice in the Waikato Region of New Zealand.

Methods

General practice registrars identified cases by looking for diagnostic codes for PCOS (Read Code C164) using their practice management system (PMS). All practices used the Medtech system and a standardised query was built by RK and these were applied to the searches performed in each practice. Cases were limited to women aged 15 to 45 years, diagnosed after 1 January 2007, and enrolled at the practice at the time of the study. Registrars were asked to collect data on up to 10 cases. If more than 10 cases were found,

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then a random sample was to be taken using random numbering. Data were collected from medical records onto a pro forma that included the patient's age, ethnicity, parity, date of diagnosis, presenting symptoms (a disordered menstrual cycle indicative of ovulatory dysfunction, infertility, hirsutism), other parameters (weight/body mass index [BMI], diabetes/impaired glucose tolerance [IGT]), diagnostic tests (ultrasound, follicle-stimulating hormone [FSH] test, luteinising hormone [LH] test, serum testosterone, DHEA), as well as tests to exclude other common alternative diagnoses (thyroid-stimulating hormone [TSH] test, prolactin), or to find associated conditions, such as diabetes (HbA1c [glycosylated haemoglobin], blood glucose). The use of oral contraceptives, cyproterone acetate, metformin, clomiphene and surgery was also recorded.

Results

Fifty-five cases of PCOS were identified from five practices in the Waikato region. The mean age at diagnosis was 25 (range 15–40) years, mean BMI was 31 (range 17.7–49.8) and ethnicity was identified as 13 Māori, 2 Pacific, and 40 non-Māori/non-Pacific. Presenting features included signs of anovulation, of which 75% (41/55) had a record of irregular periods, including 24% (13/55) with infertility. Twenty-nine percent (16/55) noted either hyperandrogenism or hirsutism as the presenting problem and nearly 33% (18/55) of patients had a record of acne. Two patients had diabetes and two had IGT.

Diagnosis and investigations

Seventy-six percent (42/55) of patients were first diagnosed by the general practitioner (GP) and the remainder by a specialist. Almost half (47%) were diagnosed without documentation of the accepted two of three criteria, 40% had two criteria and 13% had all three criteria. Ultrasound was ordered in 86% (47/55) of patients, with the majority ordered by the GP. Ultrasound results were available in 83% (39/47) of patients, with 77% (30/39) having polycystic ovaries positively identified on ultrasound.

Seventy-three percent (40/55) of patients had an FSH test, 71% (39/55) had an LH test, 69% (38/55) had a serum testosterone, 11% (6/55) DHEA, and 51% (23/45) were tested for prolactin. TSH results were available for 71% (39/55) of patients, HbA1c was available in 22% (12/55) of patients, and 47% (26/55) of patients had a fasting glucose test.

Documented treatment post-diagnosis included 51% (28/55) of patients on combined oral contraception, and seven patients taking cyproterone acetate. Twelve patients were being treated with metformin (including the two patients with diabetes), and two patients were being treated for infertility with clomiphene citrate.

WHAT GAP THIS FILLS

What we already know: There are few studies reporting the characteristics and management of PCOS in general practice. It is already known that PCOS is common and that it is associated with obesity and impaired glucose tolerance.

What this study adds: This study provides some information on the characteristics of women with PCOS managed by general practitioners, an indication of the diagnostic tests used and the usual forms of treatment. It highlights the needs for a comprehensive prevalence study using accepted diagnostic criteria. It also indicates that clearer guidelines are required by general practitioners, including on the use of diagnostic tests such as diagnostic ultrasound.

Discussion

This review of cases from five practices raised a number of issues. The diagnostic criteria did not seem to be clearly adhered to.[10] This could possibly be a problem of recording rather than of using different criteria. Approximately two-thirds of the patients presented with ovulatory dysfunction, approximately a quarter with infertility problems, and 29% with hyperandrogenism. Characteristically, women with PCOS were young, usually nulliparous and had a mean BMI of 31. As expected, the majority of the women identified were noted as having infertility or concerns about the androgenic effects of their condition. Diagnosis is often based on a history of ovulatory dysfunction and measures of hyperandrogenaemia, such as serum testosterone. New Zealand GPs often have limited direct access to ultrasound. In this study, over 80% of patients had been examined with ultrasound, despite

local guidelines discouraging its use if two other criteria are met.

For women with infertility problems, a range of options seem to be used. Most commonly, treatment of irregular periods was through the use of combined oral contraceptives. A proportion of women were prescribed metformin for infertility or occasionally clomiphene, suggesting for some women infertility, rather than irregular periods, was the principal concern. Most women in this sample would be considered obese; a recommendation of exercise and weight loss in this group of patients could be beneficial. With regards to those women with a diagnosis of hyperandrogenism, many again were treated generally with third-generation oral contraceptives, or oral contraceptives with cyproterone acetate.

This study examined the characteristics and management of a selection of cases who had been identified on GP databases with a diagnosis of PCOS. The study suggests that there is a need for better recording of the key diagnostic criteria for PCOS. Practices could consider auditing the validity of their diagnoses of PCOS against the recognised criteria. Any variability in treatment in this group of women could then be addressed.

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COMPETING INTERESTS
None declared.

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