3 Polycystic Ovarian Syndrome

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Scenario
A 28 year old nulliparous woman with a 2 year history of primary infertility is referred by her GP to the Gynaecology Out-Patient Clinic. The GP has performed some investigations, a scan, which shows classic appearances of PCO, progesterone 2.1 nmol/l, LH 10.2 IU/l and FSH 4.1 IU/l. Her partner's semen analysis showed a volume of 3ml, sperm density of 26 million/ml, 30% motility with good progression, 10% abnormal forms and 1 million WBC per ml.

Explain the diagnosis of PCOS and outline the initial management plan.

Script

Doctor: Victoria Davis?

Patient: Yes.

Doctor: Thank you for coming to see me *(shakes hand)*. My name is Dr Sharma. I understand that you have been having some difficulties in getting pregnant? (*doctor opens notes*).

Patient: Yes that's right. I have been with my boyfriend for 3 years and we have not been using any contraception for the last 2 years. I thought there might be a problem with me because my periods aren't very regular.

Doctor: When you say not very regular, how often are you having a period?

Patient: Well it varies but sometimes I don't have a period for 3 months and other times they come every month.

Doctor: Have they always been like that?

Patient: No, when I was a teenager my periods were quite regular but they started to go funny when I was about 19.

Doctor: Are your periods painful?

Patient: No that's the funny thing they have never really been painful.

Doctor: Has your weight changed during that time?

Patient: Well I have always had a problem with my weight and I suppose I have put on about 2 stone since my early twenties.

Doctor: Do you suffer with acne or unwanted hair?

Patient: Well I do have some hairs on my upper lip which I find a bit embarrassing. But, doctor, I came here because I want a baby and you haven't mentioned the results of the tests that my doctor arranged.

Doctor: Yes, your doctor sent me a copy of the result of the scan and some other tests. Do you know what it shows?

Patient: The doctor said something about cysts on the ovary and that sounds quite scary. Could this be cancer?

Doctor: No, I can reassure you that I am not worried that you have got cancer. The scan shows that you have a number of little cysts or fluid filled areas arranged around the edge of the ovary. The medical term for this is polycystic ovaries.

Patient: Is that a common thing?

Doctor: Yes, it is quite common around a quarter of women in the UK seem to have ovaries like that.

Patient: Is that why I am not getting pregnant?

Doctor: Well it could be the reason.

Patient: I don't quite follow you, you said a quarter of all women have got this problem and yet I don't think that many people have problems getting pregnant.

Doctor: You are quite right, about a quarter of women have ovaries that look like that if they have a scan and many of those women do not have a fertility problem. Your doctor also performed some blood tests and this included a hormone called progesterone. The level of this hormone goes up if you have released an egg and from the result that the doctor has sent me it looks as if you did not release an egg but can I check when that test was taken i.e. what day of the cycle.

Patient: Oh I can't remember but the doctor didn't tell me it had to be on a special day. But does that mean I never release an egg?

Doctor: No not necessarily, we need to repeat the test on the 21st day of your cycle

for the result to be accurate. However from what you tell me and interpreting all your results together, I think you have a condition called polycystic ovarian syndrome, which is fairly common and would explain why you are having difficulties falling pregnant.

Patient: When you say fairly common, how common is it?

Doctor: About 1 in 10 to 1 in 20 women have this condition.

Patient: Oh I see. But could there be another reason, I am not getting pregnant?

Doctor: Well the result of your partner's sperm test is OK but the 'motility', the number of sperms that are moving around is a bit low

Patient: So he has got a problem as well?

Doctor: Not necessarily. I would suggest he repeats the test before reaching that conclusion.

Patient: I suppose my Fallopian tubes are OK because nothing was shown on the scan?

Doctor: Well unfortunately Fallopian tubes do not show up on a scan. We do not really know whether there is a problem with them or not, although we have no reason to believe that there is.

Patient: Can't you just give me some tablets to get me pregnant?

Doctor: Well I could give you some medication but I think it would be worthwhile checking your Fallopian tubes first.

Patient: I am getting rather fed up with all these delays. I have waited 2 months to see you in the clinic and now you tell me you want to do some other tests. Doctor I just want to have a baby.

Doctor: I can understand that you are impatient but I think that we ought to check your Fallopian tubes before we start any treatment. We can do this with an X-ray, which is called an HSG and we put a little bit of fluid into the womb and see that it goes through the Fallopian tubes.

Patient: Look I've got a better idea, give me some of this treatment and if I am not

pregnant after a few months then we can do the X-ray.

Doctor: I am not so sure that that is a good idea. At the present time we are only able to give you 6 months of this treatment and it would be a shame if we gave you 3 months treatment only to find that there was a problem with your Fallopian tubes.

Patient: OK, well if I have the X-ray can I start the treatment straight away? And another thing doctor can you tell me if this treatment works. I mean what are the chances of me getting pregnant in the first month?

Doctor: Well, the treatment I have in mind is a good treatment for you. About 80% of women release eggs regularly when they are taking this treatment but only about 40% of women get pregnant on it.

Patient: That doesn't sound very good, are you saying my chances are less than 50:50. Isn't there something else?

Doctor: Well there is another treatment you could try called metformin.

Patient: How does that work?

Doctor: Well one of the things that we have discovered about women with polycystic ovaries syndrome is that their bodies are resistant to a hormone called insulin. You have probably heard of insulin, it is the hormone that can give problems in people with diabetes. We have found in women with PCOS that their bodies are more resistant to insulin and so we can use a drug to help women fall pregnant.

Patient: You are making me even more worried. Do you mean I am going to get diabetes?

Doctor: I am not saying that you are going to get diabetes, although it is true to say that people with PCOS are slightly more likely to develop diabetes in the long term. However, it is important to realise that most people with PCOS do not develop diabetes.

Patient: Is there anything I can do to stop me getting diabetes?

Doctor: Well one thing that is important is for you not to put on too much weight.

You mention that you have put on weight and that can be a problem in women with your condition but it is very important that you try to limit this.

Patient: How can I do that, I hardly eat anything?

Doctor: I know it is difficult but it is particularly important for you that you try and control your calorie intake and take as much exercise as you can.

Patient: So what you're saying to me is I've got something wrong with my ovaries, that your treatment is only going to give me a 50:50 chance of getting pregnant and I might get diabetes? Is there any other bad news?

Doctor: I really would not want you to worry too much about this. As I said at least 5-10% of women in this country have got your condition. The chances of you getting pregnant with the first tablet that I had in mind are good.

Patient: You never told me what the tablet was.

Doctor: The tablet is called clomiphene.

Patient: How do I take it?

Doctor: You take it for 5 days each month starting on the second day of your period.

Patient: How do I know if it is doing any good?

Doctor: We need to do a blood test in the second half of your cycle to see if you have released an egg.

Patient: My friends all have scans.

Doctor: It is also helpful to do a scan on or around the 12th day of your cycle to see if you are about to release an egg. Some hospitals are able to provide this and some are not.

Patient: Well I suppose you have been quite helpful. I need to go away and have the X-ray?

Doctor: Yes.

Patient: One last question. What do I do if these tablets don't work? Should I try the other ones, the met, what was the word, metformin tablets?

Doctor: Yes you can try those, there is evidence that they work if the clomiphene hasn't.

Patient: And if that doesn't work that's it then is it?

Doctor: There are other treatments we could try ……. (*patient interrupts*)

Patient: IVF, you mean I've got to have a test tube baby.

Doctor: No I didn't mean that. The problem is that you are not releasing eggs regularly. We could use some injection treatment.

Patient: Does that work?

Doctor: Yes that works.

Patient: Are there problems with it. Am I going to end up with 4 babies?

Doctor: Well there can be a problem with multiple pregnancy but we can minimise that risk by using scans. At the moment though I would not worry too much about that. Shall we just arrange for you to have your X-ray?

Patient: Is there anything else I should do before I have the X-ray?

Doctor: Have we taken a swab from your cervix?

Patient: Are you saying I've got an infection?

Doctor: No I am not necessarily saying you have got an infection but we ought to check that there is not something there called Chlamydia, which can cause a problem if you have the X-ray.

Patient: I would like to tell you that I have led a virtuous life.

Doctor: I am not criticising your lifestyle I am trying to make sure that you do not get an infection after the X-ray.

Patient: That's OK then.

Doctor: Once you have had your X-ray come back and see me and we can talk about your treatment again and please do not worry too much about the long term effects of this condition as most women do not suffer from them.

Patient: Thank you doctor.

Marking Sheet

1. 2 marks for candidate introducing themselves and establishing a rapport.

2. 2 marks for asking about the symptoms of PCOS

3. 1 mark for discussing the ultrasound scan

4. 1 mark for checking when in the cycle the progesterone test was taken.

5. 2 marks for interpreting the semen analysis and suggesting a repeat test

6. 2 marks for explaining need (and insisting on) HSG

7. 2 marks for explaining success rates with clomiphene

8. 2 marks for discussing metformin

9. 1 mark for explaining risks of diabetes

10. 2 marks for discussing FSH treatment and the risk of multiple pregnancy

11. 2 marks for mentioning the Chlamydia infection and need to take a swab

12. 1 mark awarded at discretion of examiner

Final mark out of 10, divide score by 2

Key Facts

- Prevalence of PCO on scan is at least 23% in the UK, prevalence of PCOS is 5-10%
- Normal LH/FSH ratio does not exclude PCOS
- 80% of women ovulate with clomiphene treatment but only 40% conceive.
- Women should not receive ovulation induction therapy until tubal patency has been confirmed.
- Women must be screened for Chlamydia before having an HSG
- Sperm motility is an important predictor of fertility (WHO guidelines state normal semen >50% motile sperm.
- Women with PCOS have a three to seven fold increased risk of developing diabetes in later life.

Further Information

The following are available on the internet:-

Fertility assessment and treatment for people with fertility problems. Clinical Guideline Feb 2004.
www.rcog.org.uk/resources/public/fertility_full.pdf
www.rcog.org.uk/resources/public/fertility_IFP.pdf