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What are the differences between fibroid and ovarian cyst?

Gynaecology is the study of female diseases as opposed to obstetrics which is the study of pregnancy and its related disorders. The three most common gynaecological problems which may need surgery are uterine fibroids, ovarian cysts and heavy menstrual bleeding. The commonest confusion when a female is diagnosed with a pelvic growth or tumour is to know a fibroid (myoma) or from ovarian cyst and vice versa.

Fibroid and ovarian cyst are the two most common female pelvic growths or tumours which cause confusion and identity crisis amongst patients. Even the term tumour just means a growth and does not indicate whether it is benign (non-cancerous) or cancer.

Fibroid

Fibroid or myoma (Latin) is commonly called 'meat' or 'muscle' tumour colloquially. This is because the growth or tumour arises from the smooth muscles of the uterus (womb). The Indonesians called it 'myom'. Fibroids are common non-cancerous growths found in about 10% to 20% of women in the reproductive age group. The exact cause is unknown but is believed to be due to a localized hormonal imbalance of the womb (uterus). Female hormones and drugs or herbs containing traces of oestrogen can stimulate the growth of fibroids. Fortunately, the risk of fibroids turning cancerous is less than 0.5%. See picture 1.

How do fibroid (myoma) present?

Most fibroids are asymptomatic and are often discovered during routine health screening. Often ladies regard a bulge at the belly as 'fat' collection associated with overeating, lack of exercise or simply middle age paunch. The bulge can turn out to be a silently growing fibroid.

When fibroids multiply in numbers or enlarge they can cause pressure symptoms on surrounding organs like the bladder, rectum, backbone and pelvis. Patient may complain of urinary symptoms, rectal symptoms, backache and bloatedness. In severe cases, it may cause obstruction to the urinary flow leading to kidney damage. Fibroids are known to cause heavy menstrual bleeding and in some instances, infertility, miscarriage and preterm labour.

Treatment of fibroid

Small fibroids can be observed and in menopause, they do shrink in size. However, big fibroids that do not shrink after menopause need to be monitored carefully for fear of them turning cancerous. The symptomatic fibroid need medical attention. Drugs associated with male hormone and menopause hormone may provide temporary relief but can cause side effects like musculinizing changes (male voice, hairy, acne etc) or menopause changes (dry skin, hot flushes, osteoporosis etc). There are newer techniques like uterine artery embolisation or ultrasound abliation but these are for selective cases in specialized centers.

Most symptomatic fibroids are removed surgically via laparoscopic minimally invasive surgery (keyhole)(Pictures 2, 3, 4) or laparotomy (open surgery). The choice of laparoscopic or laparotomy depends on the surgeon's skill, equipment level, size, number and location of the fibroids. Whether it would be a myomectomy (removal of fibroid) or hysterectomy (removal of womb) will depend on the age, fertility status, and other associated medical factors. The best option is often arrived after consultation with the gynaecologist. Figure1 shows a guide for myomectomy or hysterectomy.

When to perform

Myomectomy	Hysterectomy
• Young	• Completed family
• Infertility	• Prevent recurrent fibroids
• Desire for child bearing	• Multiple fibroids
• Emotional attachment to womb	• Older women
	• Associated uterine problems e.g. CIN, menorrhagia

Figure 1

Ovarian Cyst

Ovarian cyst is fluid filled tumours that arise from one or both ovaries. The cyst wall or capsule is soft and may appear round, oval or irregular in shape. The cyst content is liquid, mostly fluid, filled with water (clear cyst), filled with blood (haemorrhagic or chocolate cyst) or mixed with other human tissues like hair, fat, tooth, cartilage, bone etc. See picture 5.
There are many types of ovarian cyst but I will simplify them into four main types for easy understanding.

1. Functional cyst

   This is by far the commonest cyst reported daily in ultrasound reports causing the most unwarranted anxiety to the patient. These functional 'cysts 'are mostly physiological in nature and best known as ovarian follicles (preovulation) and corpus luteum (post ovulation). These are natural occurrences in normal menstruating females. Benign cysts can also be found in females on fertility drug treatment, having hormonal imbalance or on progestogenic intra uterine devices like Mirena. Almost all functional cysts disappear with the time and rarely require surgery.

2. Endometriotic cyst

   Endometriotic cyst is commonly known as 'chocolate cyst' and colloquially called 'blood' cyst. The 'chocolate' or 'blood' is actually menstrual blood produced by endometrium (menstrual lining) of the uterus that has escaped into the pelvis eroding or invading into pelvic organs giving rise to a condition called endometriosis. The invading menstrual lining engulfs itself to form a capsule and hence an endometriotic cyst is formed with a collection of menstrual blood and secretion within. When endometriotic cyst ruptures, spillage of 'chocolate' or altered 'blood' is poured onto surfaces of the pelvis, rectum, uterus, ovary, intestine and bladder giving rise to discomfort and pain. The resulting aftermath is akin to larva from a volcano giving rise to inflammation, scarring and destruction of normal pelvic anatomy. Hence dysmenorrhoea, pelvic pain and infertility are often encountered. Fortunately, endometriotic cysts are mostly benign but their appearance can be threatening and suspicious looking. See picture 6.

3. Benign (non-cancerous) ovarian cyst

   The three most common types are serious cystadenoma (30% cancer risk), mucinous cystadenoma (5 to 10% cancer risk) and dermoid cyst (teratoma) which can contain human structures like hair, tooth, fat, cartilage, bone etc. The cause of these cysts is unknown.

4. Ovarian Cancer

   Ovarian cancer can be considered the most deadly of all female cancers because it is often discovered late. It occurs in roughly 5% of all ovarian cysts. In its early stage, it is asymptomatic and hard to detect. In its later stage, it causes abdominal bloatedness, pain, loss of appetite and weight and spread to other parts of the body.

What are the common symptoms of ovarian cyst?

Ovarian cyst is generally asymptomatic when it is small. When it enlarges it can cause abdominal swelling, discomfort and pain. Severe pain can result when the cyst ruptures or twists (torsion). It may also put pressure on bladder causing urinary symptoms or on the rectum causing bowel symptoms.

Do I need an operation?

The need to operate depends on the severity, size of cysts, number of cysts, complexity of cysts and prevention of complications like rupture, torsion, enlargement and suspicion of cancer.

The commonly done operations for ovarian cysts are ovarian cystectomy, oophorectomy and total hysterectomy with bilateral oophorectomy.

See figure 2 for explanation.

Operations for ovarian cyst.

i. Ovarian cystectomy – removal of cyst wall and contents with conservation of the remaining ovary for hormonal function.
Most younger women would prefer this. See pictures 7, 8, 9.

ii. Oophorectomy – removal of whole ovary and cyst. This is done if most or all of the ovary is destroyed by the cyst.

iii. Total Hysterectomy with bilateral oophorectomy – removal of both ovaries and uterus for fear of cancer developing or for ovarian cancer.

Figure2

The approach to the operation whether via laparascopy or laparotomy and the surgical procedures are best discussed with the attending gynaecologist.

Gynaecological check up

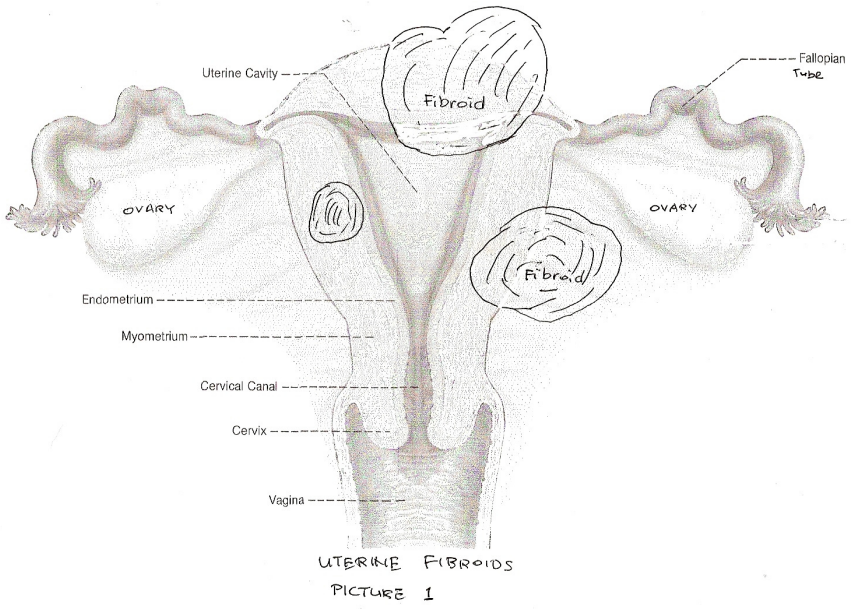
It is advised that all sexually active females should see a doctor as early as possible for pap smear, cervical cancer vaccination advice, breast examination, pelvic examination (with or without ultrasound) and contraceptive or fertility advice. Routine examinations like annual checkup and pre-employment screening have picked up a fair number of asymptomatic growths.

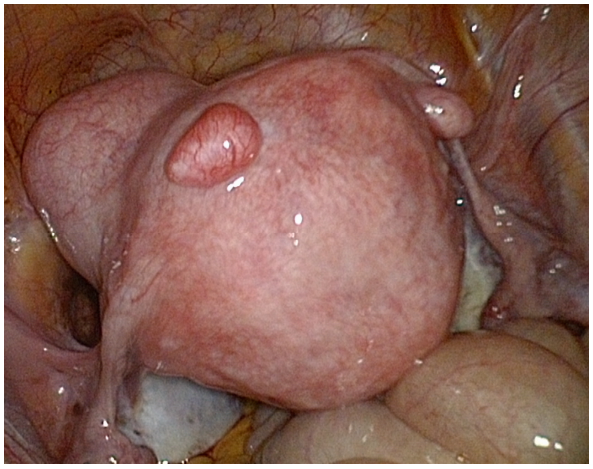
Any female regardless of age or sexual activity should consult a doctor if she has gynaecological related complaints like heavy menses, abnormal vaginal bleeding, painful menses, pelvic discomfort, bloatedness or palpable pelvic lump.

A combined vaginal and abdominal examination is often able to detect a pelvic tumour and often a fibroid feels harder than a cyst to the doctor. With the help of ultrasound scan the differentiation of cyst from fibroid is made easier. Occasionally, a MRI scan is requested to gauge the likelihood of encountering cancer for the pre operative counseling of the patient. But the definitive diagnosis still rests with the histology of the resected tumour.

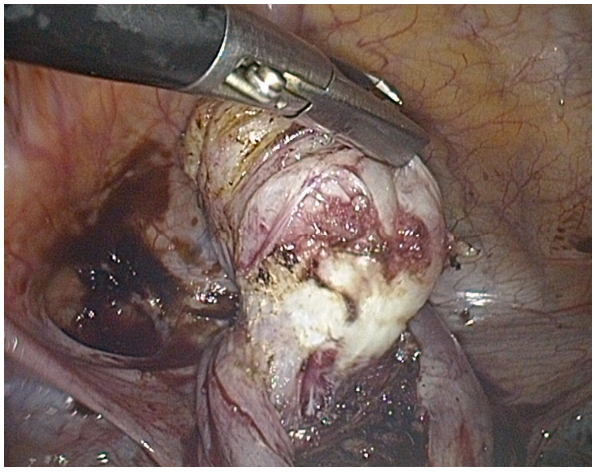
A benign fibroid or cyst can lead to pain, distortion of pelvic anatomy, menstrual problems, pelvic organs side effects and infertility. A cancerous growth can bring about morbidity, poor quality of life and death.

Hence, early detection of pelvic tumour be it ovarian cyst or fibroid, can prevent further harm to the health of the individual and keeping health care cost low.

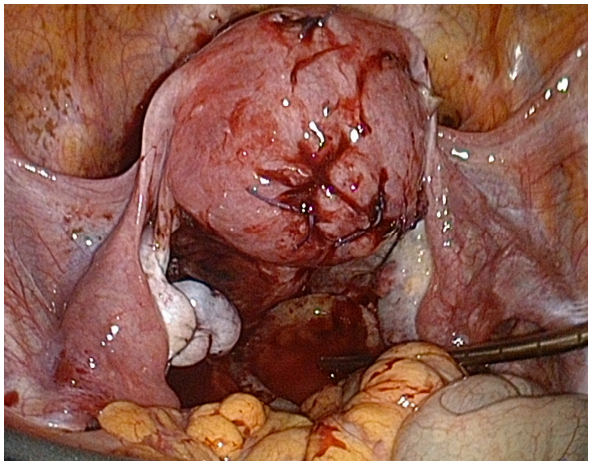




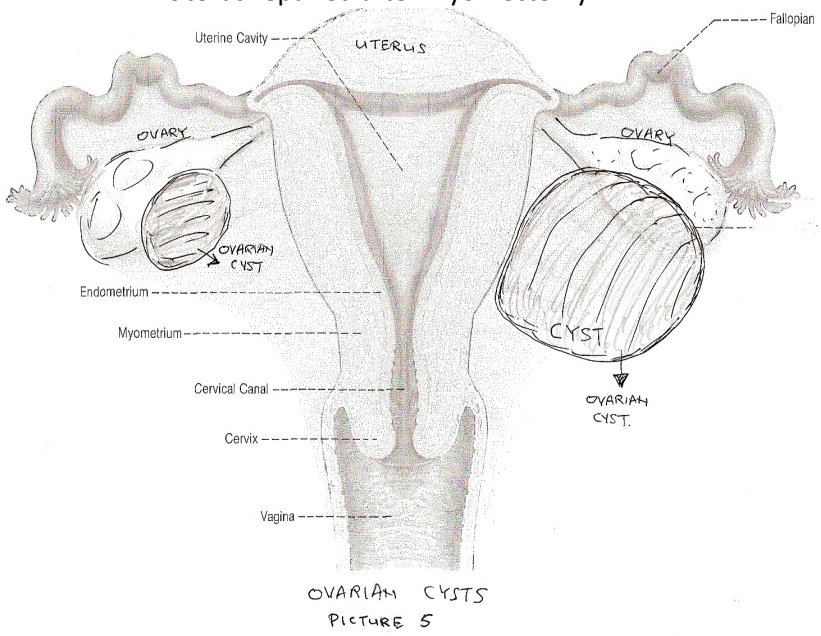
Picture 2
Uterine Fibroids (**F**)

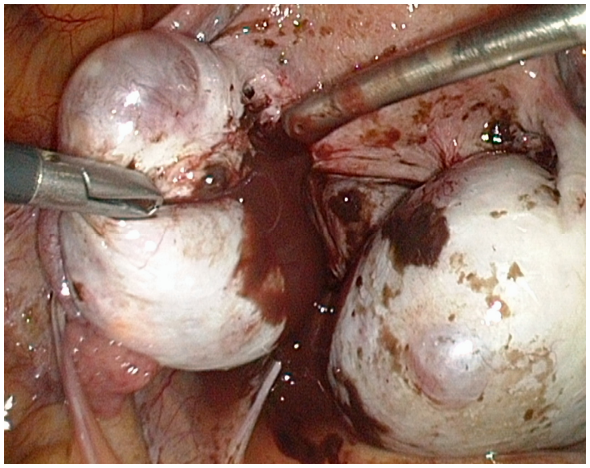


Picture 3
Myomectomy

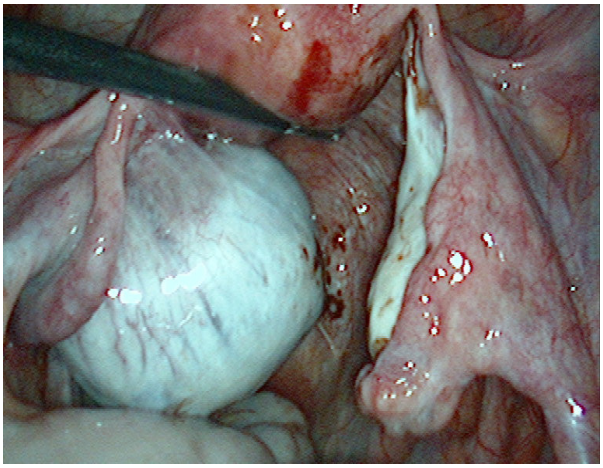


Picture 4
Uterus repaired after myomectomy

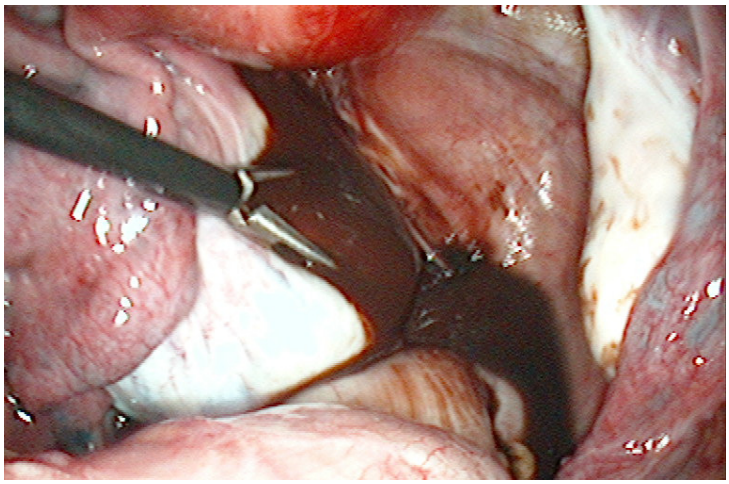




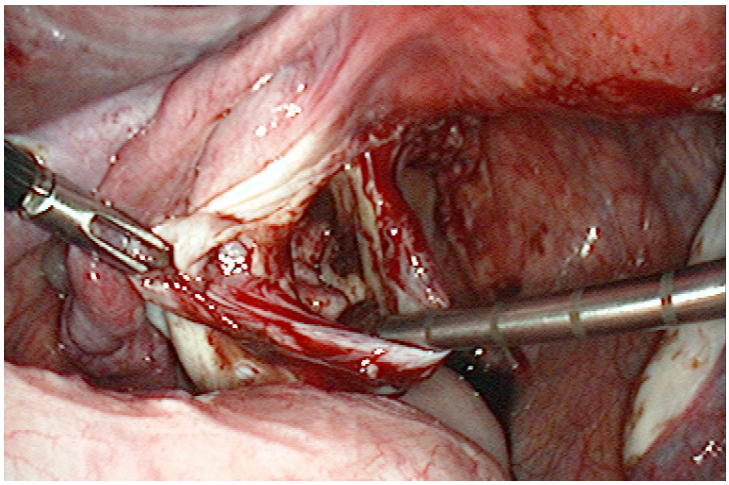
Picture 6
Bilateral ‘chocolate’ cysts



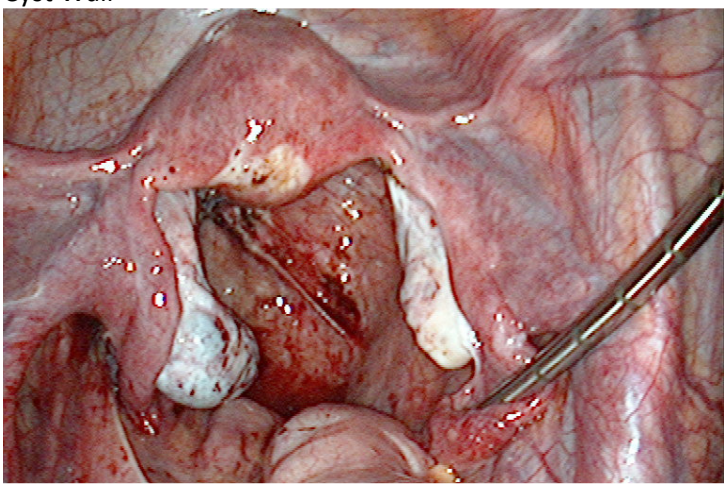
Picture 7
Left ovarian cysts



Picture 8
'chocolate' contents on puncturing cyst



Picture 9
Cyst Wall



Picture 10
Post-operation Left ovary conserved