Ovarian Cysts and Fertility

Ovarian cysts are very common during reproductive age women. The cyst has a wall and is full of fluid. Very few of ovarian cysts are cancer after puberty and before menopause. The two most common types are **follicular cysts** and **corpus luteum cysts**. These are the result of follicle growth in the ovary (the sac that contains the egg) that either a. does not release the egg and continue to grow or b. releases the egg then the follicle wall now called the corpus luteum closes and reform a cyst. The vast majority of these cysts require just observation as they resolve on their own.

Laparoscopic surgery for endometrioma may reduce ovarian reserve.

The other two common benign cysts are dermoid cysts and endometriomas. **Dermoid cyst** is a developmental cyst that are commonly found in young women. It is very rare for them to become cancer. Larger cysts can twist and become painful as they twist the blood vessels of the ovary. This needs prompt medical attention. **Endometriomas** are benign cysts full of old blood. The wall of endometriomas is similar to the lining of the uterus-endometrium. They sometimes cause pelvic pain.

Benign tumors of the ovary can also include **serous or mucinous cysts**, they contain thin or thick fluid, respectively. They rarely become malignant. **Border-line ovarian cysts** exhibit more activity of the cells lining the cyst wall but lack the invasion seen in cancer. **Malignant cysts** do exist but are not common before the age of 40.

Evaluation of ovarian cysts include clinical history, pelvic exam, careful ultrasound, color doppler to study blood flow.
into the cyst and blood work to assay tumor markers. Vaginal ultrasound, can in expert hands, delineate the characteristic appearance of the cyst and can reach an accurate diagnosis in 90% of dermoid cysts and endometriomas. Sometimes a follow up of six to eight weeks is needed as the majority of follicular and corpus luteum cysts will disappear during this period. Larger cysts that do not appear during that period may require surgical evaluation, usually using minimally access surgery-laparoscopy.

**Fertility preservation in women diagnosed with ovarian cysts.** The most important initial task is to exclude malignancy in an ovarian cyst.

Benign cysts— can be managed using observation every 6 months or ovarian cystectomy. Ovarian cystectomy entails making a cut in the ovary and removal of the cyst and the cyst wall. Removal of the cyst wall, inadvertently remove some of the adjacent ovarian tissue. Sometimes that impairs the future function of the ovary and reduces ovarian reserve and possibly the chance of future pregnancy. This is especially true if the surgery has to be repeated in the future or needs to be done on both sides. If the type of cyst is known with high degree or certainty as in the case of dermoid cysts and endometriomas, the cysts are small and not causing any complaints, young women can elect to observe them until they complete their family. If ovarian cystectomy is planned, discussion of the effects on ovarian function should be initiated as well as evaluation of ovarian reserve before and after surgery. Ovarian stimulation and egg or embryo freezing can be accomplished prior to surgery. For some women, ovarian tissue freezing can also be performed at the time of surgery.

Borderline ovarian cysts. Borderline ovarian cysts can be treated with cystectomy-removal of the cyst, oophorectomy-removal of the whole ovary or hysterectomy with removal of both ovaries. There is no evidence that one treatment is better than the other in terms of survival. For women who
desire future fertility removal of the cyst only is a viable option. If the ovary needs to be removed, ovarian stimulation, egg retrieval and embryo or egg freezing can be performed prior to surgery.

**Malignant ovarian cysts.** Malignant ovarian tumors limited to one ovary, can be treated by removal of that ovary with preservation of the uterus and the other ovary. Unfortunately, those that spread beyond the ovary may require hysterectomy and removal of both ovaries.

If you have an ovarian cyst and surgery was recommended, consultation with a reproductive endocrinologist and oncologist or gynecologist can clarify possible effects of surgery on future fertility. Women then will have the opportunity to understand fertility preservation options available for them.