Endometriosis will not Lower IVF Success

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Effects of endometriosis on fertility treatment success has always been a controversy. When a woman is diagnosed with endometriosis, she receives multiple contradicting advises from multiple sources. It is very difficult for women to sort through these recommendations and pick the ***one that are suitable for her symptoms and reproductive plans***. Indeed reproductive plans and symptoms are by far more important than the nature of the problem, anatomically, as well as what one reproductive surgeon or a fertility specialist think you should do.

Reproductive Plans in women diagnosed with endometriosis

Simply do you want to fave a baby or did you complete your family?. If you want to have a baby, then an initial infertility evaluation is required: testing for ovulation, ovarian reserve, male factor and Fallopian tube patency is required. Sometimes other forms of pelvic imaging e.g MRI is needed to test for ovarian cysts or endometriomas…Endometriosis itself may require laparoscopy and biopsy for accurate diagnosis.

Women are then categorized according to findings: endometriosis only, endometriosis with other factor or endometriosis with low egg reserve. That will facilitate further advice.

One very important indicator that you are not talking to the right person if he or she did not complete the evaluation for male factor and egg reserve. These are essential tenets of fertility and failure to test them will have impact on success. It would be absurd to do surgery for endometriosis for example to discover later that you have a severe male factor that require IVF -ICSI.

If you desire future fertility, reproductive endocrinologists should taylor their advice to preserve reproductive tissues and minimize surgery. There is a strong evidence that surgery in the ovary reduces ovarian reserve, irrespective of technique used.

Pain in women diagnosed with endometriosis

If the main symptom is pain, in different forms, then medical or surgical treatment can be employed. in women who completed their families. Medical treatment e.g non cyclic oral contraceptive pills of GnRH agonists (depot lupron) prevent pregnancy. From a practical stand point, surgery im many cases may not promote pregnancy in women with with mild and severe endometriosis.

> ***Women diagnosed with endometriosis and report pelvic pain should focus on getting pregnant. Pregnancy can suppress endometriosis for a long time after delivery***

Fertility Treatment in Women Diagnosed with Endometriosis

Absolutely avoid doing surgery in the ovaries in women interested in pregnancy. This is crucial. Opening endometriomas and tripping their walls leads to significant loss of egg reserve. The only indication to remove endometriomas if they are complicated e.g rupture or suspicion

of malignancy. There are many reports of finding eggs in the wall of endometriomas after removal and reduction in egg reserve markers after surgery. Bilateral surgery for endometioma can lead to menopause, irrespective of the skill of the surgeon.

In minimal and mild endometriosis with reasonable egg reserve, normal sperm analysis and open fallopian tubes, ovarian stimulation and IUI can be entertained in young women (38 years).

In women with moderate or severe endometriosis e.g endometriomas, blocked tubes.. or those with associated male factor infertility or low egg reserve, IVF yields a much higher pregnancy rate.

IVF Success in Women with Endometriosis

Recent analysis of IVF cycles performed in women with endometriosis with or without other factors (tubal, male, unexplained infertility) indicates that

Isolated endometriosis is associated with similar IVF success and live birth to other infertility factors, though the number of eggs retrieved may be smaller.

Endometriosis when associated with other factors e.g male or tubal factor may have lower success rates. The live birth rate is still excellent 35 to 45% per cycle.

Endometriosis-and-IVF

Treatment of Endometriosis related pain

Both medical treatment and surgery are effective for treatment of pain. Endometriomas do not respond to medical treatment. Endometriosis on the peitoneum and and other organs respond to medical and surgical treatment. Adenomyosis (endometriosis of

the uterus) is a surgical disease and respond only to surgery.

In general medical treatment is successful but requires patience and can be used for a longer period of time with add back therapy.

If you are diagnosed with endometriosis there is wide range of treatment options. Treatment should be personalized to your reproductive goals and symptoms not to physician expertise and bias. There is really little controversy about what need to be done in each situation. Women just need to be specific about what they want: get rid of pain or have another baby. IVF success is not impaired in women with endometriosis.

Fertility in Women Diagnosed with Chronic Myeloid Leukemia

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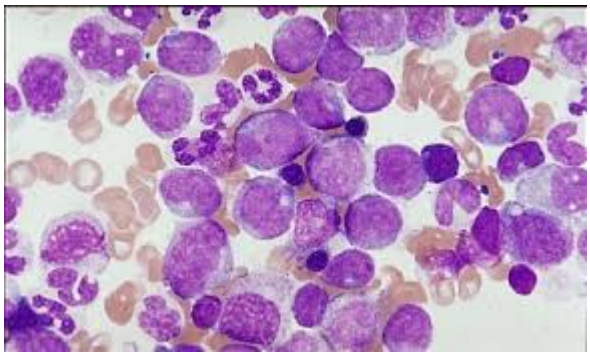
Women and men diagnosed with chronic myeloid leukemia should consider fertility issues and safety of pregnancy while under treatment. Chronic myeloid leukemia (CML) is formed of malignant cells from the bone marrow. It may later spread to the blood stream or other organs. It may also progress to a fast growing stage-acute leukemia. It is diagnosed in 2000 women and 2800 men yearly in The US, mostly during their adult years. Most individuals diagnosed with CML carry an abnormal chromosomal arrangement called Philadelphia chromosome. Many



patients do not have any symptoms. CML is suspected from blood counts and confirmed by examining blood smears and bone marrow examination.

Newer drugs like imatinib, dasatinib and nilotinib have changed the treatment of CML dramatically. More than 90% of patients that received these medications survived for 5 years or more. These belong to a group of medications called tyrosine kinase inhibitors (TKIs). These medication slow the propagation of lymphoma cells. Their side effects are less than standard chemotherapy. Response to treatment is assessed using blood counts, the presence of Philadelphia chromosome and molecular genetics tests for a specific gene. Some individuals require stem cell transplantation. Transplantation requires treatment with high dose chemotherapy and total body irradiation, both are associated with very high risk for ovarian failure.

Effects of TKIs on fertility. *Animal studies* indicate that exposure to TKIs during adult life was not associated with impaired fertility in males and females. Exposure before puberty lead to reduced sperm production in males. There has been few case reports of low sperm count and early ovarian failure after exposure to imatinib in *humans*. This was not reported in large studies. *Because of the possible effects of imatinib on fertility and because all individuals treated for CML are at risk for progressive disease requiring stem cell transplantation, men and women diagnosed with CML should consider fertility preservation. Men should consider sperm freezing. Women should consider embryo cryopreservation (if they have a partner) or egg freezing*.

Effects of leukemia on pregnancy. In general pregnancy itself does not appear to affect the prognosis for leukemia There is

no evidence that brief exposure to imatinib in early pregnancy is associated with adverse outcomes or abnormalities in the babies. There are no extensive data, however on the effects of imatinib and data on the effects of newer TKIs dasatinib and nilotinib are very sparse. Women are usually advised to use a birth control method while on these medications. In one study two of 16 babies had minor abnormalities (hypospadias in one baby and rotation of small intestine in one baby) that were surgically repaired. Women who were in remission and chose to stop imatinib during pregnancy, had 40 to 50% chance of showing evidence of propagation of the leukemia cells. The majority of them though achieved remission again after re-starting treatment.

Children born to men who are actively taking imatinib at the time of conception appear healthy and current advice is not to discontinue treatment. This is based on outcomes of 60 pregnancies reported worldwide in female partners of imatinib-treated men. In contrast the data relating to children born to women exposed to imatinib during pregnancy are less encouraging. Although numbers are small-12 congenital anomalies were found among 125 pregnancies-there has been a cluster of rare congenital malformations such that imatinib cannot be safely recommended, particularly during the period of organ formation in the baby-first 8 to 12 weeks.

Women interested in getting pregnant while on imatinib and other TKIs should co-ordinate their specific care between oncologists and reproductive endocrinologist so that they attempt pregnancy while in remission for ideally 1-2 years and in the same time minimize the period of time while off treatment. Alternative treatments than TKIs can be used during pregnancy. After delivery, TKIs are restarted and breast-feeding is discouraged as the medicine is excreted in milk. Read more at http://nycivf.org

Is it safe for women to get pregnant after breast cancer treatment

Pregnancy after breast cancer treatment

After treatment of breast cancer to the satisfaction of her oncologist, should a woman who desire to get pregnant be discouraged from doing so? A very critical question considering the fact that there are close to half a million breast cancer survivors living in the US and are in the childbearing age.

Is it safe for women to get pregnant after breast cancer treatment?

For a very long time, counseling of women regarding pregnancy was dependent on the fact that estrogen increases during pregnancy and because estrogen has some effects on both estrogen receptor positive and estrogen receptor negative breast cancers, its probably better if women avoid pregnancy-unless of course another woman is carrying for them, a gestational carrier. This recommendation is not based on strong scientific evidence.

Safety of pregnancy after breast cancer treatment. All the published reports included a total of 1417 women who got pregnant after breast cancer treatment and 18059 who survived breast cancer and did not get pregnant. **Women who got pregnant**

following breast cancer diagnosis had significantly better survival compared to women who did not get pregnant. In fact, those who got pregnant were more than 40% less likely to die because of breast cancer.

Pregnancy after breast cancer treatment

Important caveat to these studies is the healthy mother bias- the tendency of healthier women to desire and attempt pregnancy and the less healthy women to avoid pregnancy. This may inflate the safety of becoming pregnant after breast cancer treatment. Studies also largely did not address the chance for recurrence. Nevertheless, no study showed detrimental effect in breast cancer survivors who become pregnant. The largest of these studies published by The Danish Breast Cancer Cooperative Group was a population based study and included over 10,000 women who survived breast cancer and were under the age of 45. Three hundreds and sixty-seventy one women experienced 465 pregnancies and 236 deliveries. Women who got pregnant-full term or spontaneous miscarriage, were at least 30% less likely to die from breast cancer. Women with low risk breast cancers enjoyed 45% higher chance for survival after full term pregnancy than similar women who did not get pregnant.

How long should women wait after breast cancer treatment before attempting pregnancy? The majority of experts recommend waiting for about two years as the majority of recurrences takes place within this period. There are differences in recurrence pattern, however, between estrogen receptor negative and estrogen receptor positive tumors. Estrogen receptor negative tumors are more common in younger women and tend to recur earlier-within 2years after treatment. Recurrence of estrogen receptor positive cancers remain as high as 4-5% per year for about 15 years.

Pregnancy in BRCA1 and BRCA2 mutation carriers. In BRCA1 pregnancy does not seem to increase the risk of early onset breast cancer. In BRCA2 carriers, pregnancy may cause a borderline increase in risk of breast cancer before 50, especially when first pregnancy after age 40.

Pregnancy after breast cancer treatment

Breast feeding is recommended whenever possible in women treated for breast cancer, even if they are BRCA carriers and does not appear to impact breast cancer prognosis and may even be protective in some cases.

Contraception. If pregnancy is not desired as during breast cancer treatment and the follow up period after treatment non

hormonal contraception is recommended such as IUD or barrier method e.g. condom. BRCA1 carriers may show an increased risk for early onset breast cancer if they use oral contraceptive pills before the age of 30 or for more than 5 years.

Young women diagnosed with breast cancer are commonly very concerned about their future fertility and safety of pregnancy after treatment. Proper counseling enables them to make appropriate decisions about future reproduction and fertility preservation. At the end of the day, most of the breast cancer battles will be won, some will be lost, pregnancy does not appear to contribute to that loss.