



Prophylactic Bilateral Oophorectomy: Does Benefits Outweigh Risks?

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Currently, bilateral oophorectomy is performed in 55% of all U.S. women along with hysterectomy. Approximately 300,000 prophylactic oophorectomies are performed every year (1). Six lakh hysterectomies are done per year in USA., 90% are for benign disease. There has been ever increasing trend for salpingo-oophorectomy (SO) from 25% in 1965 to 55% in 1999, 38% are done before 45 yrs and 78% between 45- 65 yrs (2). Among Indian women there are higher rates of hysterectomy than white women (52.9% versus 40.0%). Whereas, in Asian/Pacific women rates are comparatively lower (33.8%). This ever increasing trend for prophylactic SO is a matter of great.

Does that mean ovaries are useless organs in menopausal period? The ovaries do not die until a woman dies. It is a master organ for reproductive tract, governs & protects the entire women's body by producing sex hormones. Thus, it is the time to reevaluate the belief that 45 year old ovary is either useless or easily replaceable organ. Even during menopause women secrete estrogen at 50 yrs: 10 - 15 pg / ml & at 70 yrs: <10 pg / ml, 50% androstenedione secreted by the ovary later on gets converted to estrogen in peripheral tissue and many unknown factors that keeps the women going with good quality of life (3).

Changes Documented Following Oophorectomy (4)

Increase in cardiovascular disease; adverse effect on lipids & clotting parameters; increase in osteoporosis & hip fracture; decline in cognitive thought & memory; decline in sexual function & libido; accelerated collagen, skin loss & wrinkling; higher rates of depression; mood changes/problems; more severe, prolonged hot flashes; more severe urogenital atrophy & shift in waist/hip ratio are well documented following oophorectomy.

Oophorectomy & Overall Mortality risk

Oophorectomy is associated with increased overall mortality. If done before 55 yrs of age an 8.6% excess mortality by age 80 years has been reported and if done up to age 59 an excess mortality of 3.9% has been reported. (4, 5)

Oophorectomy & Risk Factor for CHD

Younger age at natural menopause has been reported to increase risk for CHD and death due to CVD (6). Van der Schouw and colleagues reported 2% decrease in total cardiovascular mortality for each year of increasing age at natural menopause (7). 20% women subjected to surgical menopause develop symptoms producing hypertension & atherosclerosis. Bilateral oophorectomy performed before age 45 years is associated with increased cardiovascular mortality (8).

Oophorectomy & Bone Health

Postmenopausal women with SO have 54% more osteoporotic fractures than women with intact ovaries. Women who suffer a hip fracture between 60-64 loses 11 yrs (disability years) of life & after 70 yrs loses 4 yrs of life (9).

Oophorectomy & Mental Diseases

Bilateral oophorectomy performed before age 45 years is associated with increased mortality for neurological or mental diseases (10). Women who undergo premenopausal bilateral oophorectomy are found to have an increased risk of developing de novo depressive and anxiety symptoms compared with referent women (4).

Oophorectomy & HRT

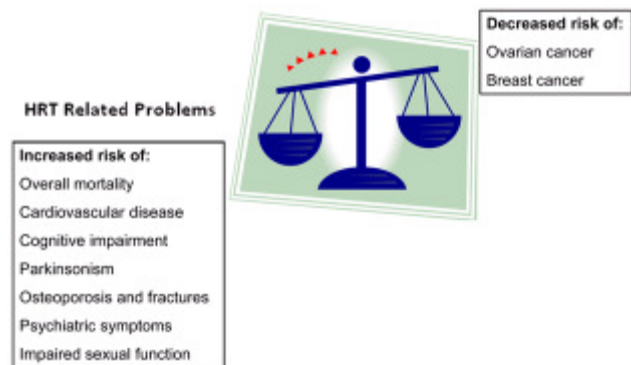
Oophorectomy forces women to be on pills for rest of her life. Since HRT prescription has become controversial it is not entirely clear how women should be treated after an oophorectomy. Risks of thromboembolism (47%) stroke (39%), breast cancer (26%) CHD (29%), is well known with long term use of HRT. Moreover, replacing ovaries with pills for the rest of her life raises economical burden & compliance as important issues. Even there is no guarantee that a particular dose will protect the women from CHD, depression or suicidal tendency.

Does the Benefits of Oophorectomy Outweigh the Risk

It raises many questions, if we plan oophorectomy just because of lurking fear of ovarian cancer (0-1%) (11); breast cancer (unknown risk) (12) and ovarian cyst or pain full ovaries due to ovarian remnant syndrome-1.4%

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Ovarian Cancers (11): Only 0-1% of women would be saved from ovarian cancer if one ovary is removed at elective hysterectomy at age 45 years. If both ovaries are removed, then the protection is 8.4%. A literature review suggest that 12% of ovarian cancers might be avoided if women undergo prophylactic oophorectomy at elective hysterectomy. Risk cancer arising in an ovary during 10 years after hysterectomy is 1.5 to 2 per 1000 cases. Probability of developing before age of 75 years in USA among white & Black has been reported to be 1.45% & 0.87% respectively. Among Indian population it has been reported from Bangalore to be 0.57%; Bombay 0.74% & Madras 0.64% of the population.

Ovarian Remnant Syndrome: There is only 1% chance of developing malignancy in retained ovaries. Post hysterectomy cyst and pain is only seen in PID, when they become buried in adhesions otherwise it is rare. Intermittent ovulation pain may continue but most one sided pains after hysterectomy do not originate from the ovaries and are due to surgical reasons. Even after removal of ovaries "Primary peritoneal cancer can occur" up to 1.4% of population. Those not undergoing prophylactically oophorectomy, ovarian cancer accounts for 14,800 deaths per year as reported from the USA data. However, those undergoing prophylactically oophorectomy; coronary heart disease accounts for 350,000 deaths per year and in addition, 100,000 cases of dementia may be attributable annually to prior bilateral oophorectomy (2).

Reminant Ovary Function: Contrary to earlier belief that the ovaries ordinary atrophy and cease to function as a result of hysterectomy. Now established by hormone assays, vaginal smears, temperature charting and symptomatology that ovarian function continues normally in most women until the natural age of menopause.

Breast Cancer: Compared with ovarian conservation, bilateral oophorectomy at the time of hysterectomy for benign disease is associated with a decreased risk of breast and ovarian cancer but an increased risk of all-cause mortality, fatal and nonfatal coronary heart disease

and lung cancer (12). However, advancing age is itself a risk factors of breast cancer ie in 17% after age of 65; 80% after age 75 yrs and a women with family history carries 5% of life time risk of getting Ca breast.

Conclusion

Destruction is easier but its consequences should be thought of, let us get best out of waste. Estrogen deficiency, resulting from premenopausal or postmenopausal oophorectomy, is associated with higher risks of all cause mortality, CAD, stroke, hip fracture, parkinsonism, dementia, cognitive impairment, depression and anxiety. Bilateral oophorectomy may do more harm than good. In women not at high risk for development of ovarian or breast cancer, removing the ovaries at the time of hysterectomy should be approached with caution.

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