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## Opinion

# First Treatment for Breast Cancer with certain Inherited Gene Mutation

## Opinion

The U.S. Food and Drug Administration approved use of Lynparza (olaparib tablets) treat certain types of breast cancer that have spread (metastasized) and whose tumors have a specific inherited (germline) genetic mutation, making it the first drug in its class (PARP inhibitor) approved to treat breast cancer. This class of drugs has been used to treat advanced, BRCA-mutated ovarian cancer and has now shown efficacy in treating certain types of BRCA-mutated breast cancer.

BRCA genes are involved with repairing damaged DNA and normally work to prevent tumor development. However, mutations of these genes may lead to certain cancers, including breast cancers.

Lynparza is a PARP (poly ADP-ribose polymerase) inhibitor that blocks an enzyme involved in repairing damaged DNA. By blocking this enzyme, DNA inside the cancerous cells with damaged BRCA genes may be less likely to be repaired, leading to cell death and possibly a slow-down or stoppage of tumor growth.

Common side effects of Lynparza include low levels of red blood cells (anemia), low levels of certain white blood cells (neutropenia, leukopenia), nausea, fatigue, vomiting, common cold (nasopharyngitis), respiratory tract infection, influenza, diarrhea, joint pain (arthralgia/myalgia), unusual taste sensation (dysgeusia), headache, indigestion (dyspepsia), decreased appetite, constipation and inflammation and sores in the mouth (stomatitis).

Lynparza treat the patients with BRCA-mutated, advanced ovarian cancer who have received three or more treatments of

chemotherapy, and for the maintenance treatment of patients with recurrent epithelial ovarian, fallopian tube or primary peritoneal cancer.

## Conclusion

1. There should be awareness and knowledge of cancer risk factors among the population, and how these vary by age, sex, socio-economic status and geographical area.
  2. Action should be taken to reduce the prevalence of important modifiable risk factors such as tobacco, alcohol, overweight and UV exposure.
  3. Campaigns and initiatives to help raise awareness of health lifestyle behaviours (e.g. physical activity) among the public should emphasise the links between lifestyle and cancer.
  4. Molecular tests for breast cancers should be done for diagnostic purpose; when breast cancer is diagnosed, the tumor tissue is tested for several "biomarkers". These markers are substances or abnormalities that can be detected in the tumor tissue and used to predict prognosis and guide treatment recommendations.
- Hormone receptor status
  - HER2/neu Status
  - OncoType Dx Test
  - MammaPrint Test

## References

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