Ovarian Cancer

Facts and figures

In 2012, over 238,500 women were diagnosed with ovarian cancer, making it the seventh most commonly diagnosed cancer in women worldwide[1]. It is also the eighth most common cause of cancer death worldwide, with over 150,000 women dying from ovarian cancer in 2012[1].

The high mortality is mainly because ovarian cancer is often diagnosed at a late stage, by which time the patient has a poor prognosis[2]. Despite advances in treatment and diagnosis, for the 60 percent of ovarian cancer patients whose cancer has metastasised by the time of diagnosis, the five-year survival rate is only 27 percent[3], so there is a real need for additional therapies beyond current standard of care, a key part of which is surgery and chemotherapy[4].

High-grade serous cancer is the most common form of ovarian cancer[5]. Approximately 60-80 percent of ovarian cancer is of the serous ovarian cancer subtype, which is the most aggressive form of the disease[6]. As many as 95 percent of stage III–IV ovarian cancers are of the serous subtype[7].

Risk factors

The risk of dying from ovarian cancer is about 1 in 100[8]. The risk of developing ovarian cancer and subsequent prognosis is influenced by several factors, including age, environmental factors, early diagnosis, lifestyle factors and family history. The risk of developing ovarian cancer is increased in women with specific inherited genetic abnormalities. One of these risks is associated with *BRCA* mutations[9].

BRCA gene mutations can play a key role in serous ovarian cancer. In the general population, 1.4 percent of women will be diagnosed with ovarian cancer[10], while up to 40 percent of women with *BRCA1* or *BRCA2* mutations will be diagnosed with ovarian cancer in their lifetime[11]. An estimated 15 percent of ovarian cancers are linked to *BRCA* mutations[12], and an estimated 16-21 percent of serous ovarian cancers are linked to *BRCA1* and *BRCA2* mutations[13].

The unmet need

There is currently no reliable screening method to detect ovarian cancer and symptoms often go unnoticed. Early stages of ovarian cancer often present no specific symptoms. Symptoms that are caused by ovarian cancer are also more commonly caused by other less serious conditions, such as abdominal pain, swelling or bloating, or pelvic pressure. By the time ovarian cancer is diagnosed, the cancer has often spread beyond the ovaries to nearby organs[8].

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References

[1] WHO Globocan 2012. Estimated Cancer Incidence Prevalence and Mortality Worldwide. http://globocan.iarc.fr/Pages/fact_sheets_population.aspx Last accessed: 22 May 2014.

[2] Cancer Research UK. Ovarian cancer survival statistics. Available at: http://www.cancerresearchuk.org/cancer-info/cancerstats/types/ovary/survival/ovarian-cancer-survival-statistics Last accessed 22 May 2014.

[3] National Cancer Institute. SEER stat fact sheets: ovary cancer. Available at: http://seer.cancer.gov/statfacts/html/ovary.html Last accessed 22 May 2014.

[5] Banerjee S, Kaye SB. New strategies in the treatment of ovarian cancer: current clinical perspectives and future potential. *Clin Cancer Res.* 2013;19:961-8.

[5] Wang ZC, *et al.* Profiles of genomic instability in high-grade serous ovarian cancer predict treatment outcome. *Clin Cancer Res.* 2012;18:5806-15.

[6] Levanon K, *et al.* New insights into the pathogenesis of serous ovarian cancer and its clinical impact. *J Clin Oncol.* 2008;26:5284-93.

[7] Colombo N, *et al.* Newly diagnosed and relapsed epithelial ovarian carcinoma: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Ann Oncol.* 2010;21(Suppl 5):v23-30.

[8] American Cancer Society. Ovarian cancer detailed guide. Available at: http://www.cancer.org/acs/groups/cid/documents/webcontent/003130-pdf.pdf Last accessed 22 May 2014.

[9] Cancer Genome Atlas Network. Integrated genomic analyses of ovarian carcinoma. *Nature.* 2011;474:609-15.

[10] National Cancer Institute. BRCA1 and BRCA2: cancer risk and genetic testing. Available at: http://www.cancer.gov/cancertopics/factsheet/Risk/BRCA Last access 22 May 2014.

[11] Petrucelli N, *et al.,*1998 Sep 4 [Updated 2013 Sep 26]. In: Pagon RA, Adam MP, Bird TD, et al., editors. GeneReviews™ [Internet]. Seattle (WA): University of Washington, Seattle; 1993-2014.

[12] Pal T, *et al.* BRCA1 and BRCA2 mutations account for a large proportion of ovarian carcinoma cases. *Cancer.* 2005;104:2807-16.

[13] Liu G, *et al.* Differing clinical impact of BRCA1 and BRCA2 mutations in serous ovarian cancer. *Pharmacogenomics.* 2012;13:1523-35.

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