

Ovarian Cancer landscape in Asia-Pacific

2021



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1. Epidemiology overview and Clinical activity

Internationally, ovarian cancer is the 7th leading cancer diagnosis and 8th leading cause of cancer mortality among women. There are about 300,000 new cases diagnosed each year. Ovarian cancer has a lower prevalence in comparison with breast cancer, but it is three times more deadly and mortality rates are expected to continue to rise significantly.

Although the risk of developing and dying from ovarian cancer is almost twice as high in developed countries when compared to less developed countries, the actual burden (number of cases) is much higher in less developed countries, due to population sizes. For example, China has the largest number of diagnoses per year (over 30,000 per year), followed by India (over 25,000), then the USA (over 20,000). Almost 200,000 deaths occur each year due to ovarian cancer, accounting for 4% of the entire cancer-related mortality among women. Based on GLOBOCAN 2018, the highest mortality rate in Asia was seen in India. [1,2,3]

Each year, about 1,400 Australians are diagnosed with ovarian cancer. It is more commonly diagnosed over the age of 50 but can occur at any age. In 2016, 1289 new cases of ovarian cancer were diagnosed in Australian women. The risk of being diagnosed before age 85 is 1 in 85. In 2018, there were 968 deaths caused by ovarian cancer in Australia. The five-year survival rate for ovarian cancer is 46%. [4] One patient dies of ovarian cancer every 48 hours in New Zealand. Out of the 5 gynaecological cancers, ovarian cancer has the highest death rate in New Zealand. [5]

Ovarian cancer is the third most common gynaecological cancer in China. The age standardized incidence ratio (ASIR) showed an ascending trend during the period of 2000 to 2013, with an AAPC of 1.4%. In 2013, 50 thousand new incident cases occurred, with the ASIR of 5 per 100,000. The age standardized mortality ratio of ovarian cancer has been ascending between the years of 2000 to 2013, with an AAPC of 4.5%. In 2013, 21 thousand patients died of ovarian cancer, corresponding to the mortality rate of 3 per 100,000. Five-year relative survival rate of ovarian cancer was overall 39%. [6]

The incidence of ovarian cancer is between 5 – 8/100,000 in India, third most prevalent gynaecological cancer after breast cancer and cervical cancer. The risk starts increasing from age 35 and reaches a peak between the ages of 55 – 64. It has the worst prognosis amongst gynaecological cancers, with a five-year survival rate of 45 %. [7]

In Singapore, ovarian cancer is the 5th most common female cancer, constituting 5% of new cancer cases and 5% of all female cancer deaths. [8] In Malaysia, ovarian cancer is the 4th most common cancer in women with ASIR of 6 per 100,000 population. [9] According to the Malaysian National Cancer Registry 2012-2016, ovarian cancer makes up 6% of female cancer cases with a 2% lifetime risk in the general population.

The ASIR of ovarian cancer in South Korea has shown steady increase from 6 per 100,000 women in 1999 to 7 per 100,000 women in 2012. A similar increasing trend was noted in the case of age-standardized prevalence rates, with a peak of 23 per 100,000 in 2012. [10]

In 2017, ovarian cancer accounted for 4% of all new cancer cases in Hong Kong. In 2017, 627 women were diagnosed with ASIR standing at 11 per 100,000 standard population. In 2018, a total of 229 women died from this cancer, accounting for 4% of all cancer deaths in females. The age-standardised death rate of ovarian cancer was 3 per 100,000 standard population. [11]

Estimated incidence, mortality and 5-year prevalence of OC (2020) in a selection of locations

Country	New Cases		Deaths		5-year Prevalence	
	Number	ASR*	Number	ASR	Number	Proportions**
Australia	1,397	6.3	1,046	3.8	4,240	33.1
Greater China	55,342	5.3	37,519	3.3	149,686	21.2
India	45,701	6.7	32,077	4.8	103,716	15.6
Malaysia	1,836	10.8	1,175	6.9	4,989	31.7
New Zealand	320	7.2	219	4.3	957	39.0
Philippines	5,395	10.4	3,379	6.6	13,667	25.1
Singapore	500	11.2	269	5.2	1,626	58.3
South Korea	2,756	6.5	1,422	2.6	8,664	33.8
Thailand	4,475	7.9	2,941	4.7	11,843	33.0
United States	23,820	8.1	14,359	4.0	72,013	43.1

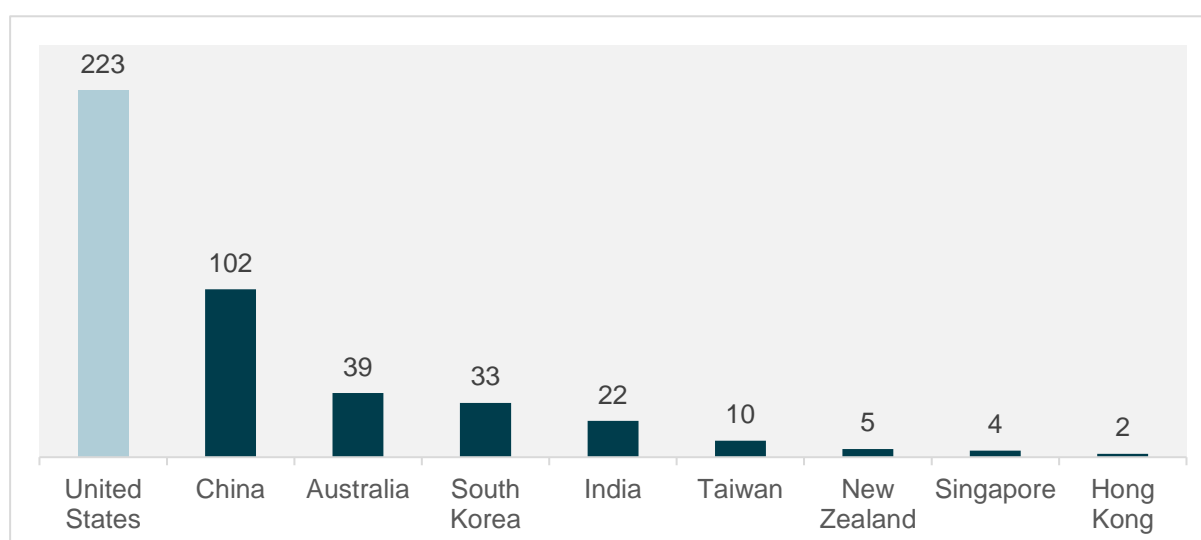
*Age standardized rate per 100,000

**Proportions per 100,000

Source - Cancer Today by WHO

Biopharma companies initiated over 550 trials in ovarian cancer between 2018 and 2020, over a third of which involved the Asia-Pacific region. China, Australia and South Korea were the most frequently involved locations with fewer competing trials compared to the US.

Top locations in Asia-Pacific in relation to the number of ovarian cancer studies initiated by Biopharma companies between 2018-2020.

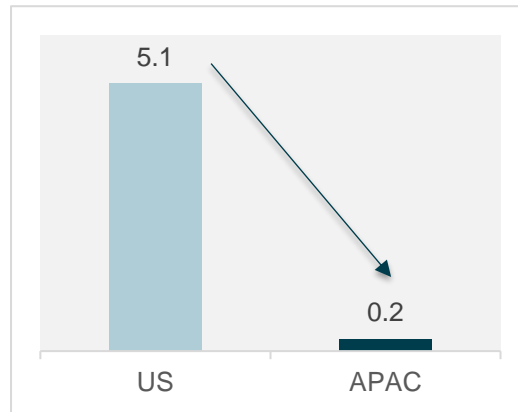


Locations in which Novotech directly operates

Source – GlobalData [Accessed 20th January 2021]

Lower Trial density (US vs. APAC)

Number of recruiting sites for industry initiated ovarian cancer trials per million of urban population in selected Asia-Pacific countries, 2020-2021.



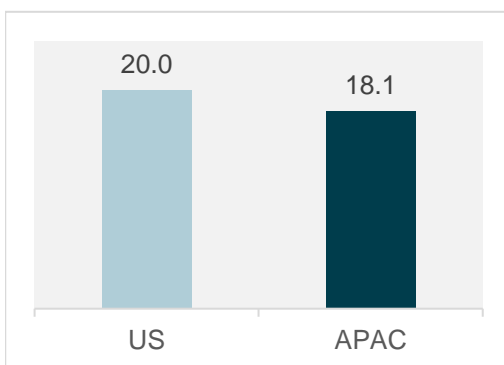
Source – ClinicalTrials.gov [Accessed 20th January 2021]

Recruitment Analysis

Asia-Pacific region shows faster enrolment periods and higher recruitment rates when compared to the US.

Faster Trial Enrolment

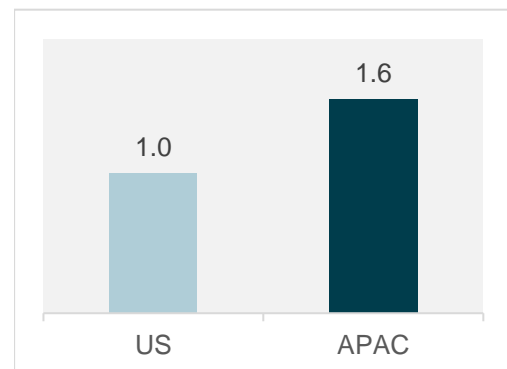
Enrolment duration (in months) for industry sponsored ovarian cancer trials in the Asia-Pacific and the US, initiated between 2019-2020.



Source – GlobalData [Accessed 20th January 2021]

Higher Recruitment Rate

Recruitment rate (subject/site/month) for industry sponsored ovarian cancer trials in the Asia-Pacific and the US, initiated between 2019-2020.



Countries which Novotech directly operates

2. Standard of Care

Overview of standard of care for ovarian cancer:

Treatment Option	Types
Surgery	<ul style="list-style-type: none"> • Unilateral salpingo-oophorectomy (USO) – surgical removal of one ovary and the attached fallopian tube • Bilateral salpingo- oophorectomy (BSO) – surgical removal of both ovaries and both fallopian tubes • Total abdominal hysterectomy (TSO) – surgical removal of the uterus, including the cervix
Chemotherapy	<ul style="list-style-type: none"> • Platinum agents – Carboplatin, Cisplatin, Oxaliplatin • Taxanes – Paclitaxel, Docetaxel
Targeted Therapy	<ul style="list-style-type: none"> • Angiogenesis inhibitor – Bevacizumab • PARP inhibitors – Olaparib, Rucaparib, Niraparib • TKI inhibitors – Pazopanib
Immunotherapy	<ul style="list-style-type: none"> • Immune checkpoint inhibitor – Pembrolizumab
Hormone Therapy	<ul style="list-style-type: none"> • Antiestrogens – Tamoxifen • Aromatase inhibitors – Anastrozole, Exemestane, Letrozole • Luteinizing hormone-releasing hormone agonists (LHRH) – Leuprolide acetate • Progestins – Megestrol acetate

Source – NCCN guidelines for patients – Ovarian Cancer 2019 edition

3. Key Opinion Leaders in Ovarian Cancer

Prof. HEXTAN YUEN SHEUNG NGAN

University of Hong Kong – HONG KONG

Prof. Ngan is Head, Department of Obstetrics and Gynaecology (OG) at the University of Hong Kong and Chief of OG at Shenzhen Hospital and the Gleneagles Hospital. She has research interest in biomolecular and psychosocial studies, cancer screening and clinical trials in gynaecological oncology. She co-authored over 300 publications in journals such as *Br J Radiol*, *J Surg Oncol*, *Clin Radiol*.



A/Prof. LINDA MILESHKIN

University of Melbourne – AUSTRALIA

A/Prof Mileskin is Associate Professor of Oncology at the University of Melbourne. She is Deputy Director of Oncology at the Peter MacCallum Cancer Centre. She consults at the Mercy Hospital for Women. She is the clinical trials lead for Gynaecology in the Parkville Cancer Clinical Trials Unit and is the Chair of the Gynaecological Tumour Group for Cancer Trials Australia. She is board member and the current chair of their Research Advisory Committee of ANZ Gynaecological Oncology Group. She was involved in over 30 trials and co-authored over 150 publications in journals like *Lancet Oncol*, *Br J Cancer* and *Clin Cancer Res*.

Prof. LAI CHYONG HUEY

Chang Gung Memorial Hospital – TAIWAN

Prof. Lai Chyong Huey is a Gynaecologic Oncologist, Professor, Chair of Infection Control Committee, Chair of Oncology Committee and Vice-superintendent at the Chang Gung Memorial Hospital, Linkuo Branch. She is the President of the Asian Gynecologic Oncology Group. She is co-author of over 100 publications and was involved in more than 10 early and late phase clinical studies in gynaecologic cancers.



Prof. BYOUNG GIE KIM

Samsung Medical Center - SOUTH KOREA

Prof. Byoung Gie Kim is a Professor of Obstetrics and Gynecology at Sungkyunkwan University and Gynecology Specialist at the Samsung Medical Centre. Dr. Kim is Member of the American Association Cancer Research and the International Gynaecologic Cancer Society. He engaged in more than 20 trials in gynaecologic cancers and is the co-author of over 200 publications in journals such as *Jpn J Clin Oncol*, *Int J Cancer*, *Gynecol Oncol*.

Prof. NAGARKAR RAJNISH

Curie Manavata Cancer Centre – INDIA

Prof. Rajnish is the Chairman & Chief Surgical Oncologist of Curie Manavata Cancer Centre. He is a Professor in Super Speciality DNB Surgical Oncology. He is a member of Royal College of Surgeons, Edinburgh. He was engaged in over 20 ovarian cancer trials and has over 40 publications to his credit in international journals including *World J Radiol*, *Oncotarget*, *JAMA Oncol*.



4. Novotech Overview

Novotech is internationally recognized as a leading regional full-service contract research organization (CRO) in Asia-Pacific. Novotech has been instrumental in the success of over a thousand Phase I - IV clinical trials for biotechnology companies.

Novotech provides clinical development services across all clinical trial phases and therapeutic areas including: feasibility assessments; ethics committee and regulatory submissions, data management, statistical analysis, medical monitoring, safety services, central lab services, report write-up to ICH requirements, project and vendor management. Novotech obtained the ISO 27001 certification which is the best-known standard in the ISO family providing requirements for an Information Security Management System. Together with the ISO 9001 Quality Management system, Novotech aims at the highest IT security and quality standards for patients and biotechnology companies

<https://novotech-cro.com/>

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