Poster 40: TRENDS IN OVARIAN CANCER INCIDENCE AND INCIDENCE-BASED MORTALITY: A 15-YEAR POPULATION-BASED ANALYSIS

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Topic: Ovarian

Objectives
The predicted incidence and incidence-based mortality (IBM) of ovarian cancer (OC) in 2023 is lower than prior years. OC encompasses a range of heterogeneous cancers with subtypes categorized on histology and site of origin. Given differences in survival and treatment paradigms, we aim to characterize trends in OC incidence and IBM based on histology and site of origin to determine what factors are responsible for the decline.

Methods
Patients with OC from 2000-2019 were identified from the US Surveillance, Epidemiology, and End Results 17 registry database. Using ICD-O-3 codes, patients with epithelial, stromal, and germ cell cancers of the ovary, fallopian tube, and peritoneum were included. Incidence and IBM were reported as age-adjusted rates and stratified by cancer subtype. Using Joinpoint 4.9.1.0, we characterized piecewise log-linear time trends to identify inflection points in the rates' annual percentage change (APC).

Results
The incidence of epithelial OC decreased significantly from 2004-2019 (APC -1.24%). When stratified by disease stage, this trend was seen in distant disease (APC -2.11%) and unknown/unstaged disease (APC -3.40%); however, there was a significant increase in incidence of local disease (APC +0.83%). There was no significant change in the incidence of germ cell and stromal OC from 2004-2019 in all stages. (APC -0.30% and +0.33%). Among all OC subtypes, there was a significant decline in incidence from 2000-2019 (APC -1.57%) with a sharper decline from 2015-2019 (APC -3.41%). Among all cancer subtypes, the incidence trended down from 2000-2019, with a significant decline from 2015-2019 (APC -2.37%). Similar trends are observed in IBM. Among all stages of epithelial OC, there was a significant decrease in IBM from 2006-2019 (APC -2.02%). When stratified by disease stage, there was a decline in IBM in local disease (APC -7.19%, 2014-2019) and distant disease (APC -2.44%, 2010-2019). There were no changes in IBM of germ cell and stromal OC from 2004-2019 (APC +0.78% and -0.20%). Among all cancers, IBM significantly decreased from 2006-2019 (APC -2.28%). When stratified by disease stage, there was no change among local disease and an increase in regional disease from 2006-2019 with the increase from 2006-2010 (APC +14.35%) compared to 2010-2019 (APC +1.45%). Conversely, there was a significant decrease in IBM for distant disease (APC -2.51% from 2010-2019) and unknown/unstaged disease (APC -3.27% from 2006-2019).

Conclusions
There has been an overall decline in incidence and IBM of OC over a 15-year period, primarily driven by the epithelial histology. Over the past 20 years, OC has been increasingly diagnosed at earlier stages with a corresponding improvement in survival. While stage migration and improved survival may contribute to these trends, they do not entirely explain them. As new treatments become available, the incidence and IBM of OC may further decline.
Abstract Table or Graph

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