INCREASE OF SALPINGECTOMIES IN GERMANY SINCE 2005

PSU29

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OBJECTIVES

- Ovarian cancer is the seventh most commonly diagnosed cancer among women worldwide and the eighth most commonly diagnosed cancer among women in Germany.[1,2]
- In 2018, ovarian cancer accounted for about 295,500 new cases and 185,000 deaths in the world.[3]
- Increasing evidence suggests that the most common type of ovarian cancer, high-grade serous ovarian carcinoma, originates in the fallopian tubes. In this context, the progression from lesions in the fallopian tubes to ovarian cancer was reported to take several years.[4]
- Consequently, national gynecologist associations including U.S., U.K., Australian, and Canadian societies published statements recommending prophylactic salpingectomy to prevent ovarian cancer at the time of gynecological surgery between 2011 and 2017.[5-9]
- The German Society for Gynecology and Obstetrics has not yet recommended prophylactic salpingectomy due to lacking evidence.[10]
- Therefore, the aim of this study was to evaluate the trend of salpingectomies from 2005 to 2017 in Germany and compare it to trends in other pelvic surgeries.

METHODS

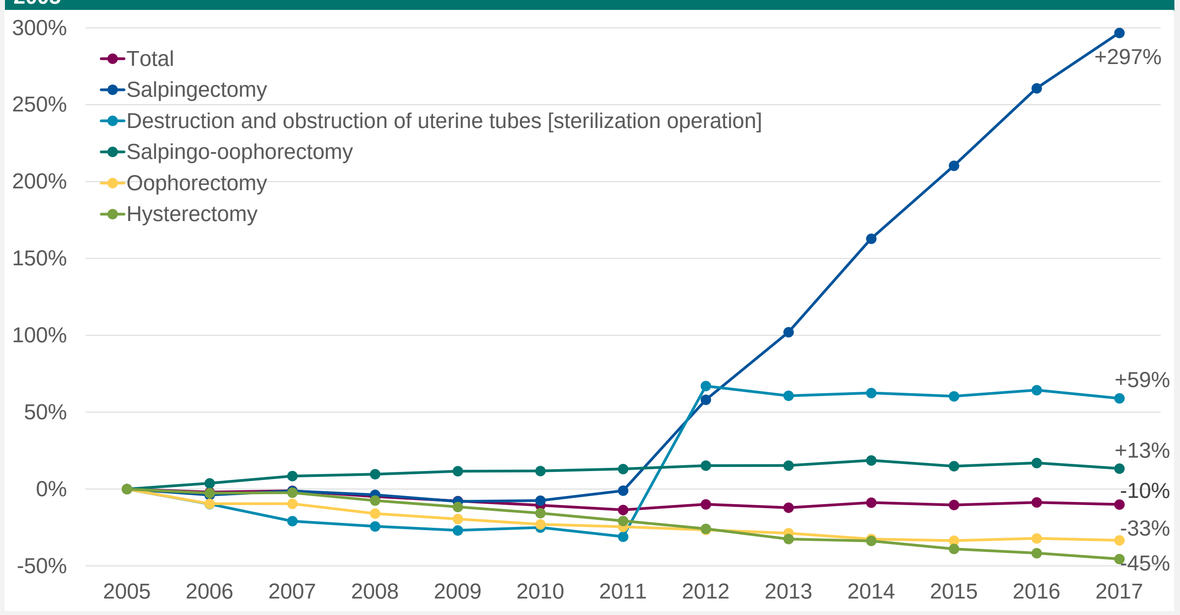
- Data from the Federal Statistical Office on operations and procedures performed in German hospitals from 2005 until 2017 were used.
- The database contains the number of patients with full inpatient care by operation and procedure codes (OPS codes) in Germany in total and stratified by sex and age groups.
- The analysis was restricted to female patients.
- Pelvic surgeries were identified by the following OPS codes: salpingectomy (5-661), destruction and obstruction of uterine tubes [sterilization] (5-663), salpingo-oophorectomy (5-653), oophorectomy (5-652), and hysterectomy (5-683).

RESULTS

Development of the number of pelvic surgeries from 2005 to 2017

- In total, the number of patients undergoing one of the investigated pelvic surgeries decreased by -10% from 2005 (n=210,849) to 2017 (n=189,749).
- A more detailed analysis of the single pelvic surgeries showed that the number of female patients undergoing salpingectomy increased by +297% from 2005 (n=12,380) to 2017 (n=49,113).
- This increase started in 2011. While the number of fully inpatient female patients undergoing salpingectomy remained steady from 2005 until 2011, it increased continuously afterwards.
- A growth was also observed for sterilization operations which went up by +59% (n=7,113 in 2005 and n=11,312 in 2017) and for salpingo-oophorectomies which increased by +13% (n=40,508 in 2005 and n=45,915 in 2017).
- In contrast, the number of oophorectomies and hysterectomies decreased by -33% (n=9,410 in 2005 and n=6,274 in 2017) and -45% (n=141,438 in 2005 and n=77,135 in 2017), respectively **(Figure 1)**.

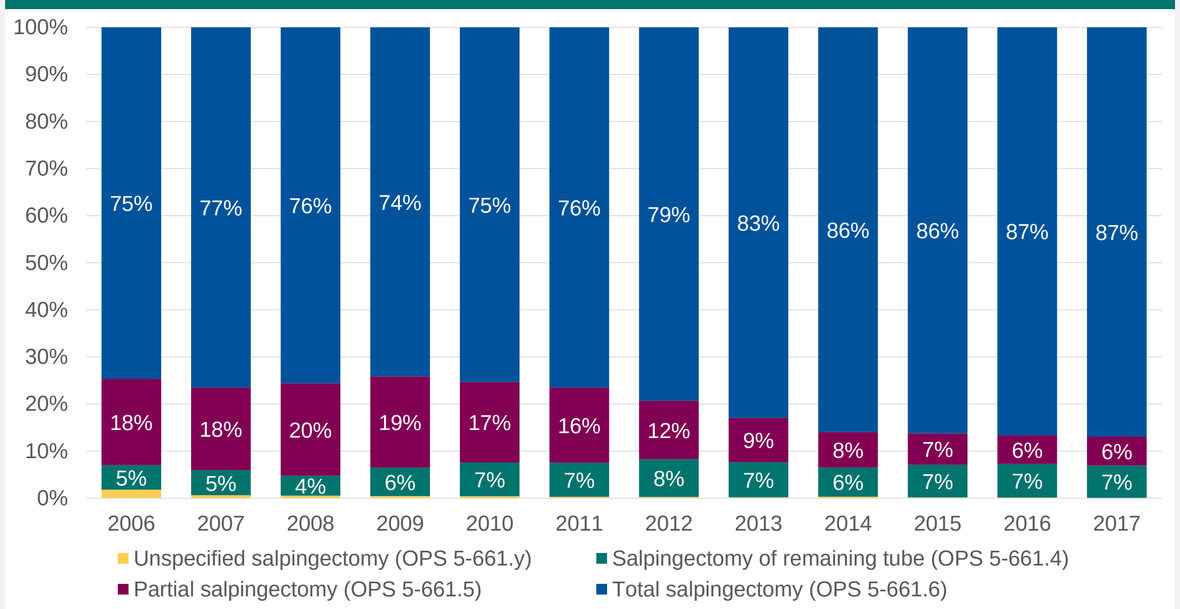
Figure 1: Percent change in number of fully inpatient female patients undergoing certain pelvic surgeries since 2005



Extent of salpingectomies

- Data on the extent of the performed salpingectomies were available from 2006 to 2017.
- A detailed analysis of the extent of salpingectomies revealed that the highest increase was observed for salpingectomies of the remaining tube which went up by +448% from 2006 (n=619) to 2017 (n=3,395).
- The number of total salpingectomies increased by +380% (n=8,890 in 2006 and n=42,692 in 2017) and the number of partial salpingectomies by +38% (n=2,180 in 2006 and n=3,003 in 2017).
- The distributions displayed in **Figure 2** demonstrate that most salpingectomies were total. While the proportion of total salpingectomies increased from 2006 (75%) to 2017 (87%), the proportion of partial salpingectomies decreased from 2006 (18%) to 2017 (6%).

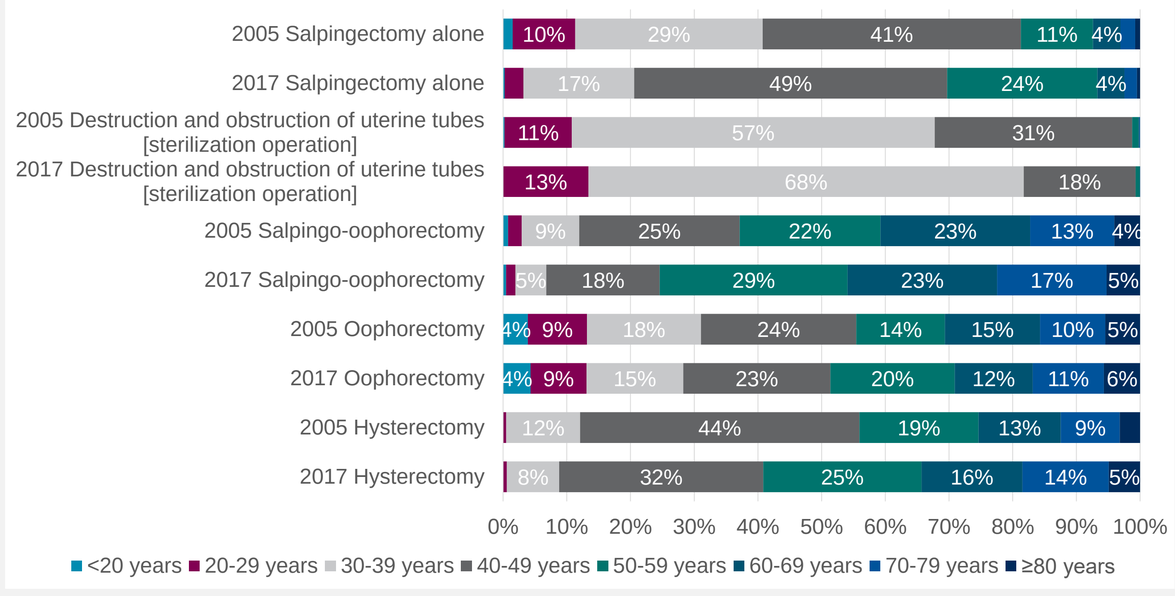
Figure 2: Distribution of the extent of salpingectomies from 2006 to 2017



Age distribution

- All patients undergoing one of the pelvic surgeries were on average older in 2017 than in 2005.
- Only patients with a sterilization operation tended to be younger in 2017 **(Figure 3)**.

Figure 3: Age distribution of fully inpatient female patients undergoing certain pelvic surgeries in 2005 and 2017



CONCLUSIONS

- Although prophylactic salpingectomy is not recommended in German guidelines to prevent ovarian cancer, the number of salpingectomies has risen sharply since 2011 in Germany.
- A similar trend has been observed in the Unites States. Salpingectomy rates have increased considerably from 2000 to 2013 (77%), with most of the growth occurring since 2011.[11]
- A hospital study from Taiwan investigating female patients undergoing hysterectomy demonstrated that the proportion of hysterectomies with opportunistic salpingectomy has risen from 8% in 2007 to 80% in 2015.[12]
- A limitation of this study is that the database contains no information on the indications for procedures or whether they were performed individually or concomitantly with another procedure.
- The rise in salpingectomy rates in Germany corresponds to the growing evidence for and acceptance of the model that many ovarian cancers originate in the fallopian tubes.
- Therefore, our findings may reflect physicians' efforts to reduce ovarian cancer risk by prophylactic salpingectomy, although the German Society for Gynecology and Obstetrics has not yet recommended such surgery due to lacking evidence.

REFERENCES

1. Reid BM, Permuth JB, Sellers TA. Epidemiology of ovarian cancer: a review. Cancer Biology and Medicine. 2017; 14(1): 9-32.
2. Robert Koch Institute and Association of Population Based Cancer Registries in Germany. Cancer in Germany 2013/2014. 2017; 11th edition. Retrieved from http://www.gekid.de/Doc/krebs_in_deutschland_2015.pdf.
3. International Agency for Research on Cancer. Ovary Fact Sheet GLOBOCAN. 2019. Retrieved from http://gco.iarc.fr/today/data/factsheets/cancers/25-Ovary-fact-sheet.pdf.
4. Labidi-Galy SI, Papp E, Hallberg D, et al. High grade serous ovarian carcinomas originate in the fallopian tube. Nature Communications. 2017; 8: 1093.
5. American College of Obstetricians and Gynecologists. ACOG Committee Opinion No. 620: Salpingectomy for ovarian cancer prevention. Obstetrics and Gynecology. 2015; 125(1): 279-281.
6. American College of Obstetricians and Gynecologists. ACOG Committee Opinion No. 774: Opportunistic salpingectomy as a strategy for epithelial ovarian cancer prevention. Obstetrics and Gynecology. 2019; 133(4): e279-e284.
7. Royal College of Obstetricians and Gynaecologists. The distal fallopian tube as the origin of non-uterine pelvic high-grade serous carcinoma. Scientific Impact Paper No. 44. 2014. Retrieved from https://www.rcog.org.uk/globalassets/documents/guidelines/scientific-impact-papers/sip44hgscs.pdf.
8. Royal Australian and New Zealand College of Obstetricians and Gynaecologists. Managing the adnexae at the time of hysterectomy for benign gynaecological disease. 2017. Retrieved from https://ranzcog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical%20-%20Gynaecology/Managing-the-adnexae-at-the-time-of-hysterectomy-(C-Gyn-25)-March18.pdf?ext=.pdf.
9. Society of Gynecologic Oncology of Canada. GOC statement regarding salpingectomy and ovarian cancer prevention. 2011. Retrieved from https://g-o-c.org/wp-content/uploads/2015/09/7GOCStmt_2011Sep_SalpOvCa_EN.pdf.
10. German Society for Gynecology and Obstetrics. Indication and methods of hysterectomy for benign diseases. Guideline S3. Version 1.2. 2015. Retrieved from https://www.awmf.org/uploads/tx_szleitlinien/015-070l_S3_Indikation_Methodik_Hysterektomie_2016-11.pdf.
11. Hicks-Courant KD. Growth in salpingectomy rates in the United States since 2000. American Journal of Obstetrics and Gynecology. 2016; 666-667.
12. Ding DC, Huang C, Chu TY, Wie YC, Chen PC, Hong MK. Trends of opportunistic salpingectomy. Journal of the Society of Laparoendoscopic Surgeons. 2018; 22(3): e2018.00004.