PRIMARY FALLOPIAN TUBE CARCINOMA:

OCCURRENCE, RISK AND PROGNOSTIC FACTORS

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ABSTRACT

The aim of the study was to clarify the occurrence, and etiological and prognostic factors of primary fallopian tube carcinoma (PFTC). We studied the sociodemographic determinants of the incidence of PFTC in Finland and the role of chlamydial infections and human papillomavirus infections as risk factors for PFTC. Serum tumor markers were studied as prognostic factors for PFTC. We also evaluated selected reproductive factors (parity, sterilization and hysterectomy) as risk or protective factors of PFTC. The risks of second primary cancers after PFTC were also studied.

The age-adjusted incidence of PFTC in Finland increased from 1.2 per 1,000,000 in 1953–57 to 5.4 per 1,000,000 in 1993–97. The incidence rate was higher in the cities, but the relative rise was higher in rural areas. Women in the two highest social classes showed a 1.8–fold incidence compared with those in the lowest. Women in agriculture and those not working outside the home showed only half the PFTC incidence of those in higher socioeconomic occupations.

Pretreatment serum concentrations of hCGβ, CA125 and TATI were evaluated as prognostic markers for PFTC in a study including 60 patients. Elevated hCGβ values (above the 75th percentile, 3.5 pmol/L; OR 2.49, 95% CI 1.22–5.09), stage (OR 2.47, 95% CI 1.21–5.02) and histology (OR 2.71, 95% CI 1.26–5.83) were strong independent prognostic factors for PFTC.

Chlamydial and human papillomavirus (HPV) infections were studied in two separate seroepidemiological case-control studies with 78 PFTC patients. The incidence of women with positive HPV or chlamydial serology was the same in PFTC patients and in the control group and was not found to be a risk factor for PFTC.

The effects of parity, sterilization and hysterectomy on the risk of PFTC were studied in a case control-study with 573 PFTC cases from the Finnish Cancer Registry and ten age-matched controls from the Finnish Central Population Register. In multivariate analysis parity was the only significant protective factor as regards PFTC, with increasing protection associated with increasing number of deliveries (OR for 1 or 2 deliveries 0.63, 95% CI 0.44–0.91; and for $\geq$ 3 deliveries 0.32, 95% CI 0.19–0.52). In univariate analysis sterilization gave borderline protection against PFTC (OR 0.58, 95% CI 0.33–1.00) and the protective effect increased with time since the operation. The OR for PFTC after previous

breast cancer was 1.69 (95% CI 1.08–2.67) and after other cancers, 1.23 (95% CI 0.79–1.91).

Finally, the possible risk of a second primary cancer after diagnosis and treatment of PFTC in a cohort of 2084 cases from 13 cancer registries followed for second primary cancers within the period 1943–2000 was studied. In PFTC patients, second primary cancers were 36% more common than expected (SIR 1.36, 95% CI 1.13–1.63). The SIR for second cancer (all sites combined) was highest if the time since PFTC was more than 10 years, if age at PFTC diagnosis was less than 60 years or the year of PFTC diagnosis was before 1984. Significant increases were detected for non-lymphoid leukemia (SIR 3.7, 95% CI 1.0–9.4), for bladder cancer (2.8, 95% CI 1.0–6.0), for colorectal cancer (1.7, 95% CI 1.0–2.6), for breast cancer (1.5, 95% CI 1.1–2.2) and for lung cancer (1.8, 95% CI 0.9–3.2). Significant risks were detected for colorectal cancer during the second to fifth year after PFTC diagnosis, for non-lymphoid leukemia during the second to tenth year and for breast cancer after follow-up of 10+ years. The excess of colorectal and breast cancers after PFTC may indicate common effects of earlier treatments, or they could reflect common effects of lifestyle or genetic, immunological or environmental background.

In conclusion, the incidence of PFTC has increased in Finland, especially in higher social classes and among those in certain occupations. Secretion of hCGβ reflects the aggressiveness of this cancer. Serum hCGβ is a good prognostic marker and elevated levels reflect a worsened prognosis. The study findings suggest that PFTC is a disease with a multi-etiological background. Parity is a clear protective factor, as is previous sterilization, whereas factors other than infectious ones will have to be determined as possible risk factors of this disease. After PFTC there is a risk of second primary cancers, especially non-lymphoid leukemia, bladder, colorectal, breast, lung cancers.
Full text: https://oa.doria.fi/bitstream/handle/10024/4211/primaryf.pdf?sequence=1