

ASSOCIATION BETWEEN GYNECOLOGIC PELVIC CANCER SURVIVORSHIP AND URINARY INCONTINENCE AND OTHER PELVIC FLOOR DISORDERS: AN OBSERVATIONAL CASE-CONTROL STUDY.

Hypothesis / aims of study

Care for quality of life is a major concern for cancer survivors as their number is in continuous rise. Gynecologic cancers are the second most frequent female cancer group and share many treatment options and many common after-effects. Pelvic floor disorders (PFDs) are rather frequent in general population, yet, they remain poorly assessed quality of life (QOL)-affecting side effects of pelvic cancer treatments.

Our main objective was to assess PFDs (urinary incontinence UI and overactive bladder, pelvic organ prolapse POP, ano-rectal disorders ARD, - fecal incontinence FI and constipation, and sexuality) in pelvic cancer surviving population in comparison with that of general population.

Study design, materials and methods

In this transverse observational case control study, exposed gynecologic cancer patients (group 1) were enrolled in our cancer clinic with at least one year interval from the end of treatment sequence. Control patients (group 3) were included through the general population cohort of breast cancer regional screening program (same geographic area as cancer patients). Both groups age ranged between 50 and 74 years. We identified in the control group an intermediate risk group of women with history of hysterectomy for a benign pathology (group 2). All case and control patients received anonymous auto-questionnaires, containing general demographic and health questions, and a total of five validated auto-questionnaires assessing different PFDs: PFDI-20 was primary endpoint; secondary endpoints were 3 specific PFDI-20 sub-scores (Urinary, POP, ARD), PFIQ-7 with same specific 3 sub-scores, actual stress UI, urgency UI and POP, FI defined by a Wexner score >7, ODS constipation score. Sexual impact, evaluated by PISQ-IR, will be subject to a subsequent paper.

Results

A total of 1177 patients were enrolled in this study: 89 cancer-surviving patients (group1), 158 patients having hysterectomy for benign pathology (group 2) and 930 control patients (group 3). Mean age and mean body mass index (BMI) were respectively 63.72, 63.49, and 60.84 years and 27.36, 25.87 and 24.96 kg/m². Group 1 patients had relatively less total child number than other groups and higher nulliparous rates. Hysterectomy median date was much more recent in group 1 (2 years before inclusion vs. 17 years in group 2).

PFDI-20 analysis found clinical and statistical significant difference between the scores of three groups, with higher scores in groups 1 and 2 ($p < 0.0001$). Group by group comparison showed no difference in group 1 vs. 2 ($p=0.0643$) but 1 vs. 3 and mostly 2 vs. 3 differences (respectively, $p < 0.0001$ and $p=0.0304$). In univariate analysis, group 1 case-patients, BMI, professional category, breast cancer history, maximal child birth-weight, and local hormonal treatment were significant risk factors. Multivariate regression analysis showed that main risk factors were group 1 exposed cancer survivors IRR=1.4587 [1.1098; 1.9172], local hormonal treatment IRR=1.3093 [1.0765; 1.5924], and BMI IRR=1.0151 [1.0018; 1.0285].

PFDI-20 sub-scores as well as PFIQ-7 total score and sub-scores, all showed the same global difference and same group to group difference patterns as for PFDI- 20, with significant higher incidence and QOL impact in groups 1 and 2 versus group 3. Multivariate analysis for PFIQ-7, confirmed that independent risk factors were group 1 exposed case patients IRR=1.5457 [1.0562; 2.2621] and local hormonal treatment OR=0.4994 [0.3170; 0.7867].

Presence of SUI as well as UUI (determined by one direct question) both showed significant higher incidence in group 1 ($p=0.0381$, and 0.004 respectively). Group 1 exposed case patients was found to be an independent risk factor in multivariate analysis of UUI only, OR=1.930 [1.167; 3.191]. FI showed a limit global difference ($p=0.056$), but multivariate regression showed again that group 1 exposed case patients was a major independent factor, OR=3.456 [1.431; 8.350], along with UI OR=5.062 [2.291; 11.184] and higher child number OR=1.418 [1.089; 1.844]. Finally, constipation incidence as defined by ODS score did not show any difference in three groups.

Interpretation of results

Study results confirms that gynecologic cancer surviving patients experience significantly more frequent PFDs with significant QOL impact, probably secondary to different treatment approaches, especially surgical treatments as shown by the recurrent difference patterns between groups 1 and 2 (always comparable) versus group 3. Cancer presence *per se*, as evaluated by breast cancer history, was never found to be an independent risk factor as we may presume. Specifically, cancer survivors were at significantly higher risk of urgency urinary incontinence, and fecal incontinence.

Concluding message

Care about pelvic floor disorders should be given for specific screening and counseling, by general practitioners and oncology care givers, in gynecologic cancer surviving patients.

Disclosures

Funding: Institutional Grant **Clinical Trial:** No **Subjects:** HUMAN **Ethics not Req'd:** Observational study **Helsinki:** Yes **Informed Consent:** Yes