P008 Male awareness of prostate cancer risk remains poor in families with germline DNA-repair genes mutations

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Introduction & Objectives: The aim is to investigate male awareness of developing prostate cancer (PCa) in families with germline DNA repair gene (DRG) mutations and, if positive, the acceptance to participate in the screening for early detection of Pca.

Materials & Methods: We reviewed the genealogical trees of all breast/ovarian cancer women who attended our Genetic Counselling Clinic from 2016 to 2021; offering a targeted BRCA1/2 test to all I/II degree male relatives between 35-69 years old (yo). We also offered a genetic test for DRG mutations to men aged 35-75yo with Pca with Gleason Score (GS)≥4+3 or <50yo with GS≥3+3. If mutated, a BRCA/DRG mutations test was offered to all son and I degree male relatives between 35-69 yo.

Results: Over 1256 families of all breast/ovarian cancer patients, we found 139 with DRG mutations. Among 139 families, we identified 378 “healthy” men aged 35-69yo and a genetic test was offered to all of them. 261 men rejected to be tested and 66 men declared to have been previously tested with the following results: 32 mutated, 19 negative and 15 were missed as they were unable to say or remember the result. Only 51 healthy males, with at least one female DRG mutated relative, were interested to be tested. This means that out of 378 men relatives of patients with DRG mutations, only 117 had already been tested or decided to do it with us, so 117/378 (31%) wanted to know whether they carried the mutation. Overall, out of the 51 new tests, we found 30(58.8%) positive men who all accepted to be enrolled in the screening to detect Pca. Out of the 117 that accepted to be tested (mean age 54yo): 82(70%) were born in Northern Italy, 23(20%) in the Southern Italy, 12(10%) in central Italy. Despite of the majority living in Northern Italy: 102(87%). 88(75.2%) had at least one child, 90(77%) had a level of education equal or higher than diploma, 22(19%) had familiarity for Pca. Of the 229 radical prostatectomies performed in 2021, 101 were eligible for genetic evaluation. Out of these 101: 55(54.5%) agreed to be tested and 46(45.5%) refused. The latter refused for the following reasons: 32(69.6%) had no sons or brothers for whom the study could have been useful, 2 stated they preferred not to be aware of being carriers of a genetic mutation, 12 did not want to give any reason for the refuse.

Conclusions: Only 31% men of families with female relatives with breast/ovarian cancer accepted a genetic test and could access to a dedicated PCa screening. Those having Pca and Grade I male relatives showed an higher interest in being tested. As a result having a diagnosis of Pca leads to a greater desire to undergo genetic analysis, even more if they have male relatives. This observation strongly supports the need to implement awareness of genetic risk for Pca. In addition, all men with positive BRCA1/2-DRGs mutation accepted to be enrolled in the annual screening for early detection of Pca.