Subgroups of familial and aggressive prostate cancer with considerable frequencies of BRCA2 mutations.

One of the known risk factors for prostate cancer (PrCa) is germline mutations in the BRCA2 gene. Previous searches for clinical characteristics which could identify a subgroup of patients enriched for mutation carriers revealed early onset and aggressive PrCa as useful parameters, but they are rather unspecific. Identification of BRCA2 mutation carriers by sequencing all exons of BRCA2 in a German cohort of 382 familial PrCa cases and of 92 sporadic PrCa cases with early onset (20 ng/ml) was the only criterion with significant enrichment of mutation carriers (6.4%, P = 0.0005). In men with aggressive disease, death from PrCa (6.3% including FH of lethal PrCa; P = 0.05) and FH of both prostate and breast cancer (4.8%; P = 0.3) increased the frequency of mutation carriers. Larger studies and/or meta-analyses are needed to validate these parameters. We have identified three potentially useful criteria, high PSA, death from PrCa (patient or FH), and aggressive PrCa in combination with FH of breast and prostate cancer. If confirmed, they may become useful for the decision which patients may benefit from BRCA2 testing.