

Population Screening for Cancer Family Syndromes in the West Pomeranian Region of Poland

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The largest worldwide population screening for cancer family syndromes was initiated in January 2001 in the West Pomeranian Region of Poland with 1.7 m inhabitants. In the first step in the period January 2001 – May 2002 family doctors and nurses collected questionnaires asking about cancer family history among 1st and 2nd degree relatives from 1,258,401 of 1.5 m individuals (87%) who were insured in the West Pomeranian Regional Health Foundation. Up to now about 1.15 m questionnaires have been evaluated by geneticists/oncologists. According to questionnaire data around 2% of families fulfilled criteria to be suspected for cancer family syndrome. Family members (usually 1-2 representatives per family) from suspected families were invited for detailed examination. After pedigree and clinical examination as well as DNA/RNA analyses, high genetic predisposition to neoplasms was diagnosed in 10,525 families. Diagnosis of the following syndromes was established definitively or with high probability:

1. Hereditary breast/ovarian cancer syndrome – 4121 families including 438 families with diagnosed BRCA1/2 mutation.
2. Familial syndromes of colorectal cancer:
 - a) HNPCC – 568 families including 63 families with diagnosed MSH2/MLH1 mutation,
 - b) FAP – 22 families,
 - c) Late onset colorectal cancer aggregations – 459 families.

3. Other hereditary organ specific syndromes:
 - a) hereditary stomach cancer – 1250 families,
 - b) hereditary renal cancer – 565 families,
 - c) hereditary laryngeal cancer – 206 families,
 - d) hereditary prostate cancer – 170 families,
 - e) NFI – 66 families,
 - f) VHL – 36 families,
 - g) Retinoblastoma – 4 families,
 - h) Peutz Jeghers syndrome – 3 families,
 - i) juvenile polyposis – 2 families.
4. Organ-specific familial aggregations:
 - a) familial lung cancer – 242 families,
 - b) familial leukaemia/lymphoma – 77 families,
 - c) familial liver cancer – 68 families,
 - d) familial cervical cancer – 30 families,
 - e) familial pancreatic cancer – 73 families,
 - f) familial melanoma – 44 families,
 - g) familial bladder – 19 families.
5. Unspecified cancer family aggregations – 3319 families.

Appropriate management has been introduced in all identified families with high predisposition to malignancies.