Post-intake/ post-cycle counseling

MaNaMa 07.03.23

Kathelijn Keymolen

Post-test counseling

- Some examples – EX1

- Couple both carrier of POMT2 variant
- Detected on ECS
- Family history of child deceased with phenotype = Walker Warburg

→PGT for POMT2

→For haplotyping : samples from the parents of the couple

Post-test counseling

- Some examples – EX1

mother homozygous POMT2 variant

No clinical signs

2nd sample

Homozygous POMT2 variant

??

Post-test counseling

- Some examples – EX1

Familial investigation:

Sister of mother homozygous POMT2

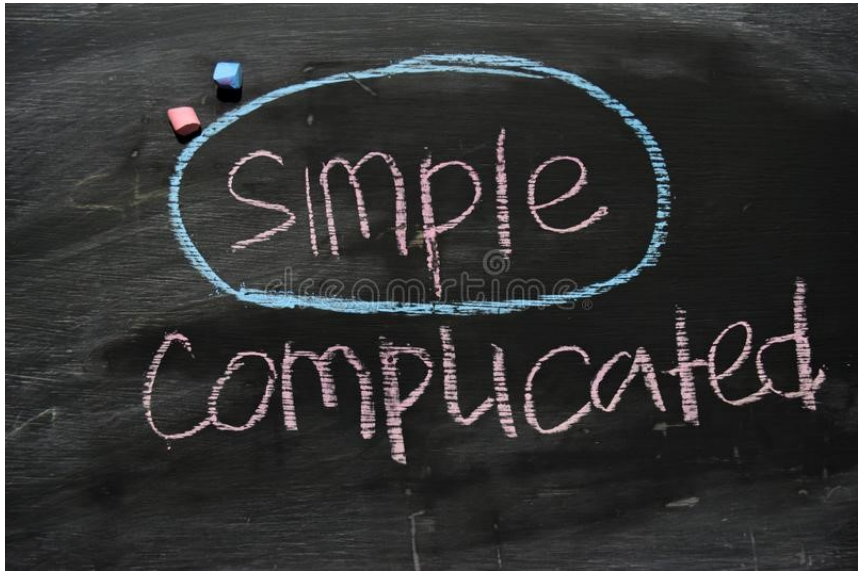
No clinical signs

→ PGT on hold

Post-test counseling

- Usually results of PGT are straightforward
- affected
- unaffected

- But sometimes it’s more complicated



Post-test counseling

- Some examples – EX2

- PGT for hereditary retinoblastoma – RB1
- Molecular defect= whole gene deletion, de novo in the future parent
- PGT developed based on SNP array

Post-test counseling

- EX2

- Embryo results show that deletion >> RB1 gene
- 6-7Mb deletion on chromosome 13 (13q14)

13q14 deletion syndrome (16-17 Mb)

dysmorphic features

retinoblastoma

intellectual disability

Post-test counseling

- EX2

- Overlap between deletion and 13q14 deletion syndrome

→Clinical re-evaluation (anamnestic)

→Learning difficulties

→Large head

→Prominent nose

→Better understanding of the parental phenotype

Post-test counseling

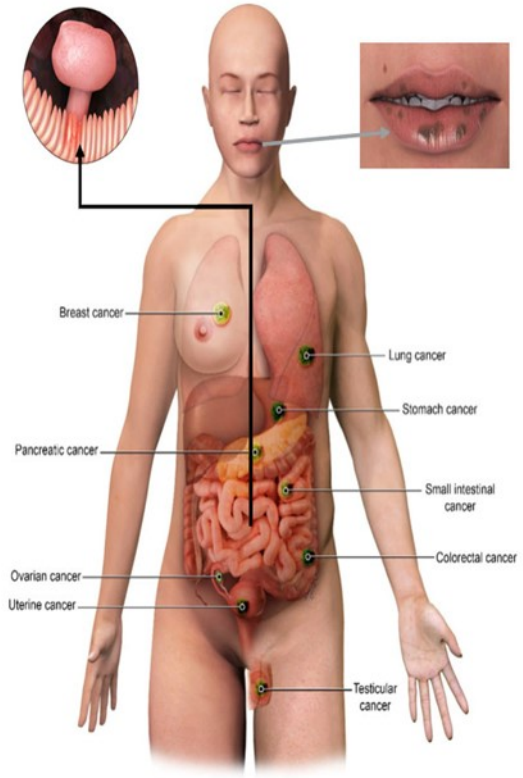
- Some examples-EX3

- PGT for Peutz-Jeghers syndrome

  hereditary cancer predisposition syndrome

  pigmented spots on lips and skin

  AD , mutations in STK11 gene



https://doi.org/10.3390/cancers13205121

Post-test counseling

- Some examples-EX3

- PGT for Peutz-Jeghers syndrome

  de novo deletion

  PGT 1st cycle: determining of haplotype and mutation

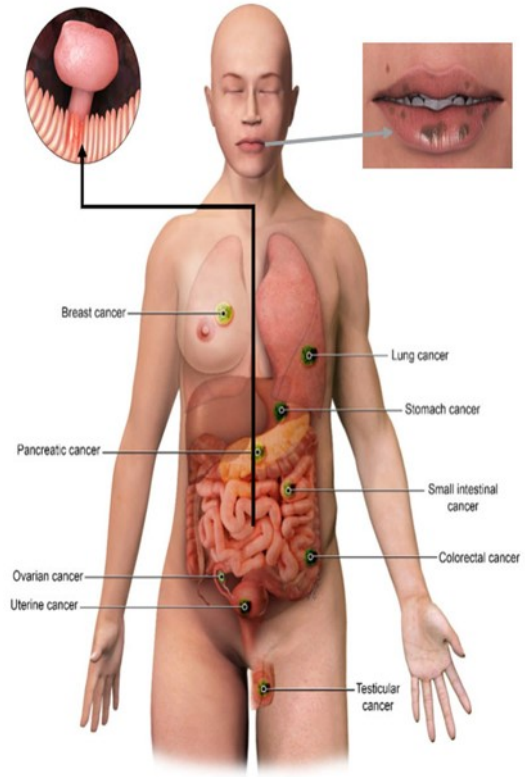
→2 different parental haplotypes present, but mutation absent

- in all embryos

→Most plausible explanation: parent is mosaic for the mutation

→ recurrence risk probably < 50%

→Still need for PGT? ? ?



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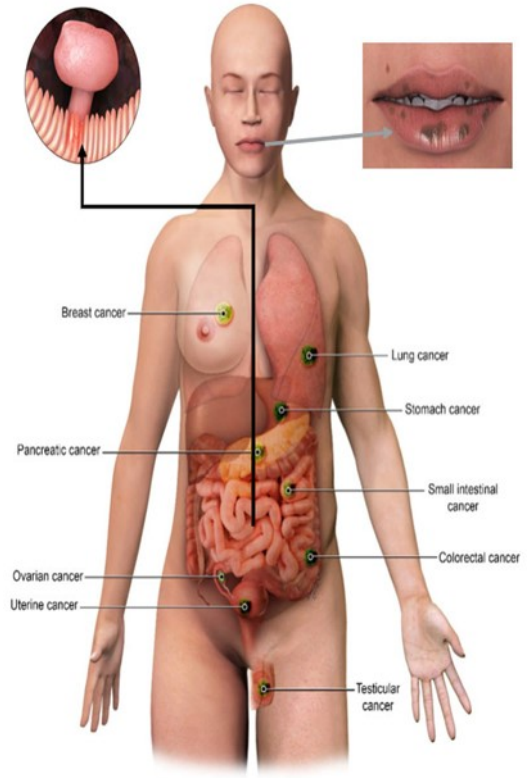
Post-test counseling

- Some examples-EX3

→Still need for PGT? ? ?

→Propose second cycle

→Analysis on sperm cells?



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Post-test counseling

- Some examples-EX4

PGT for sickle cell anemia and HLA compatibility

Results:

No embryos “unaffected/ carrier- compatible/ euploid”

But…

Post-test counseling

- Some examples-EX4

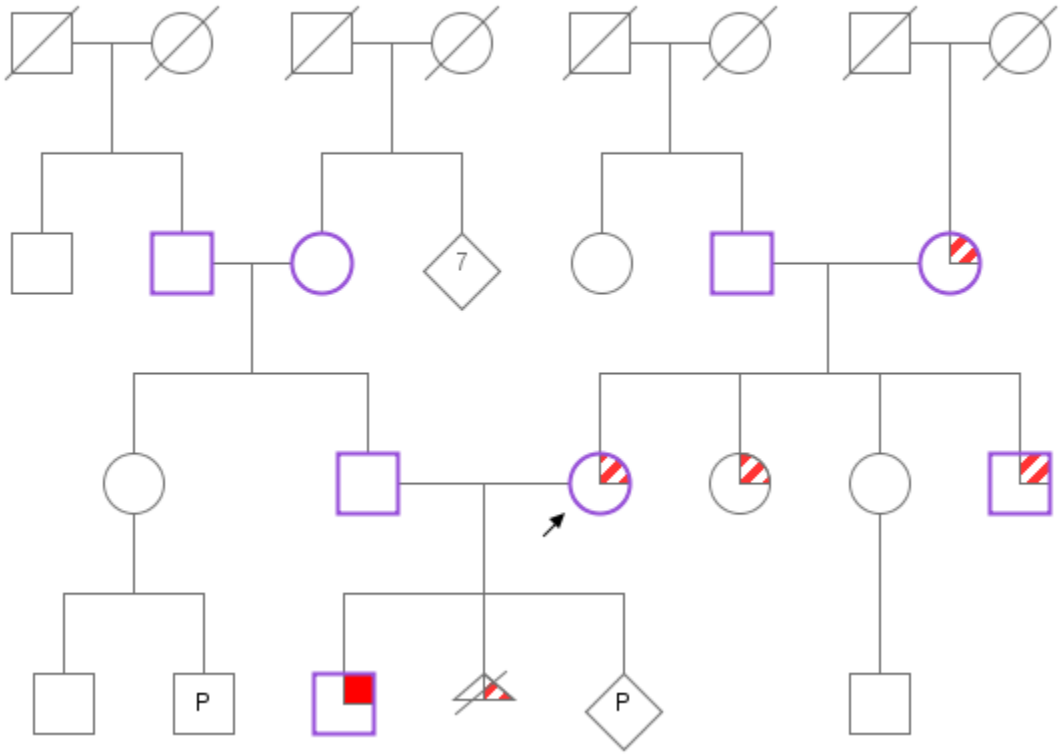
PGT for sickle cell anemia and HLA compatibility

… carrier/ compatible/ mosaic trisomy 3-10

What to do?

Post-test counseling

- Some examples-EX5



L'examen a mis en évidence une duplication en Xp11.22, de 164 kb confirmée par q-PCR. Cette duplication est connue dans les bases de données (AchroPuce, DECIPHER, ClinGen). Elle est responsable du syndrome de microduplication Xp11.22 (OMIM 300705). Elle contient 3 gènes , tous OMIM, dont le gène HUWE1 qui correspond à la région minimale pathogène (FROYEN et *al.,2012*). Le phénotype du patient est concordant avec le phénotype connu de cette microduplication. En l'état actuel des connaissances, cette variation est considérée comme probablement pathogène et causale. Ségrégation familiale à effectuer. Conseil génétique recommandé.

Réponse complémentaire du 26/11/2019 : Duplication héritée de la mère.

3 years later

- Duplication found in asymptomatic maternal uncle
  - Probably pathogenic→ probably benign
  - New diagnostic investigation in index: de novo SYNGAP1 pathogenic variant

- Pre- and post-test counseling must be a “tailored customer service”
- Overt discussion with the patients is mandatory
- Multidisciplinary approach is mandatory