BP-03: The effect of Y chromosome microdeletions in male infertility by using artificial intelligence

BEN DAHMANE Abdelhafedh [1] , BENSAADA Mustapha [2], CHEHILI Hamza [3].

[1, 2, 3] *Microbiological Engineering and Applications Laboratory, Constantine 1- Frères Mentouri UniversityAlgeria.*

Email: ***abdelhafedh.ben-dahmane@doc.umc.edu.dz***

Subject description: The couple's infertility has been proclaimed by the WHO as a pathology in its own right. It is currently accepted that 15 to 20% of couples will consult at some point for a difficulties to conceiving.

The Y-chromosome (***Yq***), known to contain repetitive sequences with different sizes, genomic structures, contents and evolutionary trajectories regarding other chromosomes. The Y chromosome is play a great importance for the development and function of the testes without forgetting that the genes of the Yq are also involved in the occurrence of cancers of thereproductive system.

The SSR are highly informative simple sequence repeat mapped to specific human Y chromosome. The polymorphisms of SSR are suitable for application in linkage studies and men infertility.

Objectives: We will developing a Python program based on artificial intelligence (***AI***)used for finding Yq SSR disorder, which can explain men infertility.

Methods: In the first place, we collect the necessary data from the public databases, through which the model is being trained to make it able to predict the impact of the SSR in male infertility.

Results and discussion: From the initial results obtained, it appears that the prevalenceof a small deletion of the Y chromosome in infertile men varies from one genome to another, depending on the population and country, as well as with some genetic sequencing problems.

Conclusion: The results obtained, which are considered acceptable largely, after studying the sensitivity and specificity of our program with its available counterparts, prompt us to complete more developmental steps to be more robustness and effective.

Keywords: Artificial intelligence, Male infertility, SSR, Y-chromosome.