

Maths to increase the success rate of liver transplants

LOCATION: Cordoba

DURATION: 1'51"

SUMMARY: Researchers from the University of Cordoba and the Reina Sofia Hospital have created an assignation model that matches liver transplant donors and recipients. This new model is more accurate when determining the compatibility between them and has a precision of 92%. This way, the chances of success are increased.

VTR:

Researchers from the University of Cordoba and the Reina Sofia Hospital have combined Maths and Medicine in order to create an assignation model that matches liver transplant donors and recipients. This new model is more accurate when determining the compatibility between them, and this way, it increases the chances of success.

JAVIER BRICEÑO
Liver surgeon

"We decided to apply the latest technology, which is artificial intelligence and artificial neural networks, to the classification systems. This computing methodology allows us to use a very powerful computer to cross-match the characteristics of the donor with our recipients' waiting list."

CÉSAR HERVÁS
Mathematician

"It consists in analysing the data regarding the donor's organ and the recipient who is on the waiting list, so we can cross-match that information and create a survival prediction model for the following three months or year."

The assignation system that is currently being used is able to predict their compatibility with an accuracy of 80%. This new model increases it to 92%.

JAVIER BRICEÑO
Liver surgeon

"What does it mean? It obviously means that the recipient's and the organ's survival rate is increased. Usually, when matching a donor with a recipient, we are mostly influenced by the condition of the recipient. But, when the condition is similar, this model tells us that there are recipients that are going to react badly to certain donors and, therefore, we shouldn't use them."

After eight years of research, these doctors and mathematicians have created this new bond that, together, they aim to develop further.

CÉSAR HERVÁS
Mathematician

"The influence of Maths on the field of Medicine is fundamental."

Now the future is to put this research into practice, and achieve better success rate in transplants.

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