PRACTICING TELEMEDICINE IN ORGAN DONATION: EFFICIENCY IN COORDINATION

To create the Era of Artificial Intelligence for organ donation and transplantation management

Wenshi Jiang[1,2], Feng Jiang[1], Xiangxiang He[1,2], Yue Wang[1], Guiyang Zhao[2], Shukai Zhang[2]

1 Shanxi Provincial Organ Procurement And Allocation Center, Taiyuan, China

2 Intelligent Sharing for Life Science Institute, Shenzhen, China

BACKGROUND

The power of Artificial Intelligence (AI) has been proved, especially in the COVID-19 pandemic. This study aims at building an AI solution to help enhance the efficiency and quality in organ donation and transplantation.

METHODS

An intelligence platform was created to meet the needs from the daily practice of organ donation. This platform is functioning for procedures monitoring, staff tracking, data reporting , statistical analysis, education & information dissemination, professional network building and data storage for scientific research.

RESULTS

Since launched in 4 OPOs, the number of potential donors reported has increased by 115%, and the utilization rate of organs has been increased from lower than 70% to 74%. Meanwhile, personal time consumption time and risks of exposed to COVID-19 were reduced while the number of organ donation has been remained. AI technologies have been applied to reduce the burden of manual input and to better improve the efficiency of the workflow, including:

1) GPS combined with 5G technology enable to collect the location in real tim so as to assign and track the current progresse.

2) Speech recognition is used to obtain the donor diagnosis and treatment information by speech processing.

3) OCR technology is used to read and input the patient's laboratory test reports.

4) Visualization technology is used to dynamically present the results of organ traceability and allocation.

5) Media communication tools were embedded where patient & organ assessment data can be shared safely.

6) E-Training tools & BLOG modules have been embedded into the platform.

CONCLUSIONS

The use of AI technologies to improve efficacy and safety during the organ donation procedures has been demonstrated by the positive results shown in the study.