



Tissue Donors in Regional Hospitals: A Reality

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ABSTRACT

Progress in transplantation means the process of procuring both human organ and tissues has become a daily challenge. Considering that tissues are usually procured from organ donors who have suffered brain death or after controlled cardiac death, the tissue procurement is done mainly in major hospitals. With the aim of highlighting the potential role of regional hospitals in tissue donation, a prospective descriptive study was carried out of all the patients who died at the Regional Hospital of Inca in Mallorca (Spain) from January 2013 to August 2018. To ensure an early detection of all possible tissue donors, the hospital has implemented a computerized alert system that is activated immediately after a patient dies. This strategy has proven to be very useful as in the analyzed period, the hospital had an average of 280 donors per million population, which is one of the highest rates of cornea donation among the Spanish hospitals. Our data and experience show the important role of regional hospitals in tissue donation and the value of implementing screening programs and early selection of potential tissue donors.

MEDICAL care has undergone dramatic improvement in recent years. In particular, the field of transplantation has been revolutionized by the development of new techniques for the preservation of organs and tissues. The clinical use of human tissues for transplants has become a widely available therapeutic option for health professionals [1]. In Spain, the significant progress made in transplantation programs is primarily due to increased efforts in the detection of potential donors and retrieval of organs and tissues [2]. Given the complexity of the transplant process, a continuous and exhaustive evaluation of each phase is necessary to identify and correct possible deficiencies. The literature reflects that the majority of tissue for transplantation is provided by multiorgan donors [3]. Tissues such as corneas, skin, musculoskeletal tissue, and cardiovascular tissue should be obtained from patients who died of circulatory arrest. The aim of the work presented in this paper was to demonstrate the immense potential of regional hospitals in tissue donation.

METHODS AND RESULTS

The Regional Hospital of Inca (HCIN) in Mallorca has 163 in-patient beds and a critical care unit and is without a neurosurgery service. It serves a reference population of

122,000 inhabitants. The hospital has a computerized system to notify staff of patient deaths. The emergency admission unit activates the system by keying in the medical record number immediately after a death. An automatic telephone call then alerts the transplant coordinator, providing the name, age, and location of the deceased patient. The established practice is to review all the medical records of deceased patients to obtain a profile of potential tissue donors. Disseminating this information to the hospital staff has undoubtedly raised awareness of the importance of tissue donation. The transplant coordinator plays a critical role in reviewing medical records and screening potential donors for medical contraindications. Above all, the coordinator builds empathetic relationships with other health professionals to ensure their collaboration, as well as with

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relatives to obtain donation consent in a face-to-face interview [4].

A prospective descriptive study was carried out of all patients who died at HCIN from January 2013 to August 2018. In the study period, there were a total of 2360 deaths. From these, a total of 622 potential donors were screened, as they were 75 years of age or less. Ruling out those with medical contraindications gave a total of 315 potential donors. The procedures applied were based on the Guide to the Quality and Safety of Tissue and Cell for human application [5] and the protocols issued by the Tissue Bank of the Balearic Islands for the detection, selection, and evaluation of tissue donors. Of these, once 45 family refusals were eliminated and those that could not be evaluated due to logistical problems, 185 actual donors were obtained (185 donors of corneas, 26 also of musculoskeletal tissue). The average age of donors was 63.1 years, and 27.9% were women. The hospital units where donors were located were Medical Pathology, Emergency, and the Intensive Care Unit, in descending order. In all cases, corneal harvesting were performed by the transplant coordinator within 12 hours after cessation of the heartbeat.

In the study period, HCIN had an average of 35 donors/year, which corresponds to a rate of 280 donors/per million population. The data on cornea donation provided by the Organización Nacional de Trasplantes [6] refer to both multiorgan and tissue donors, our hospital being a source of tissues retrieved after cardiorespiratory arrest. According to these data, HCIN is one of the leading hospitals in Spain in terms of cornea donation.

DISCUSSION

After 10 years of tissue procurement at HCIN, the family refusal rate is very low (19.5%), compared with other published data [7,8]. These good outcomes are the result of taking a global approach to the tissue donation process, so it becomes part of the care work of a maximum number of health professionals. Another important factor is the early detection of potential donors thanks to the development of our computer program.

Regional hospitals are underused as potential generators of tissue donors. Our data show that its capacity is very

significant and tissue generation could be multiplied if our model were extended to other similar hospitals. Approximately 20% of all deaths could be potential corneal donors.

CONCLUSION

In conclusion, our data and experience show the great potential of regional hospitals in tissue donation. In recent years, our hospital has achieved an average of 280 cornea donors per million population. It is essential to implement screening programs and early selection of potential tissue donors.

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