

Title : Body Donation : An “Anatomical Gift”

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Abstract :

Dissection of human cadavers forms an integral part of anatomy learning and research and it gives practical, real feel, hands on experience for students and dissectors thus reducing the pitch for virtual dissection. Main source for cadaver for medical institute is unclaimed bodies and occasionally donated bodies to medical colleges. But, the need of cadavers cannot be fulfilled by only unclaimed bodies because the numbers of medical colleges are increasing. It is essential to increase the number of donated bodies to full fill the requirement of the cadavers for medical colleges. To create the awareness about body donation various programs should be arranged by medical colleges with the help of electronic media, paper media, NGOs, social workers.

Key words: Body donation, Cadaver, Anatomy, Medical College, Dissection

Introduction : Anatomy is the study of structure of human body. It is the basic subject studied by undergraduate and postgraduate students. Dissection of human cadavers forms an integral part of anatomy learning and research. Dissection of a cadaver gives practical, real feel, hands on experience for students and dissectors thus reducing the pitch for virtual dissection^[1]. The numbers of medical colleges are increasing in the present scenario, most of the medical colleges experience difficulties in obtaining adequate number of cadavers. Main source for the cadavers in the medical institutions is unclaimed bodies and few donated bodies. It is essential to increase the number of donated bodies to full fill the requirement of the cadavers for medical colleges. Body donation is the donation of the whole body after death for medical education and research. The thought of donating body to science is a unique way to give back to society and

giving chance to medical students and researchers to learn^[2]. In every medical college the Anatomy department maintains the body donation registry and the prospective donor can avail the application form. Duly filled form should be submitted along with the relevant ID documents then donor ID card is issued by the department.

Cadaver is a principal teaching tool for teaching anatomy especially, gross anatomy. Precise knowledge of anatomy is obtained by doing the cadaveric dissection. Sushruta dissected human body in about 500 BC^[3]. The concept of dissection for learning was started in 15th century in Europe. The first medical student who dissected the cadaver was Andreas Vesalius^[4]. In India, the body of Pandurang Sridhar Apte was donated to B J Medical College, Pune in 1956^[5]. In the late 18th and early 19th centuries the anatomical dissection became popular in United States medical education and demand for cadavers increased. Increased demand for cadavers was full filled by slave bodies and thefts by grave robbers^[6]. Anatomy act was passed in U. K. in 1832 which permitted the body donation of deceased by his kin and also use of unclaimed bodies for dissection. The act was replaced by Anatomy Act 1924 and this was repealed by Human Tissue Act 2004^[7]. The Anatomy Act was enacted in 1949 in India which allows the use of unclaimed bodies of deceased persons to medical colleges, teaching institutes and hospitals for the purpose of anatomy dissection for students. This act is uniformly accepted in all states of India^[8].

Importance of body donation : Cadaveric dissection is the most important and useful tool for understanding the human body and for advancing science and it helped in development of skills and knowledge. It allows the students to learn topographic localization of organs of body and develops a spatial and tactile appreciation of human body which cannot be achieved by prosection, artificial substitutes and computerized learning aids^[9]. The experience and knowledge obtained through the cadaveric dissection is superior to any other learning methods. Each cadaver is like a new source of knowledge as many variations can be identified which could help the clinicians and surgeons while performing procedures and radiologist during the

interpretation of various procedures. Also, cadavers are also used in cadaveric OT for practicing surgical skills and developing new surgical techniques^[10]. Another innovation evolved are the cadaver banks like brain banks, skin and vessel bank which are collections of these samples that later can be used for conducting molecular research and cadaver grafting^[11]. Medical colleges use whole embalmed bodies to teach anatomy to medical, dental and physiotherapy under graduates and post graduate students.

Rejection criteria for donation : Though there is need of donated body but there are various causes which will not allow the body to accept. Medical institute has the right to accept or reject a body donation at the time of donation because these bodies are used to study normal structure of human body. Body can be rejected due to following reasons:

- a. Death due to a contagious or communicable disease.
- b. Medico legal cases (e.g. suicide/ homicide/ accidental cases).
- c. Removal of organs except eyes.
- d. Autopsied body
- e. Decomposed body
- f. Obesity or extreme emaciation.

Factors affecting the willingness to donate the body : The decision to donate a body is influenced by various factors such as: age, sex, race, ethnicity social awareness, perceptions of body donation, education, marital status etc^[12, 13]. Most body donors are primarily driven by altruism and their desire to aid the advancement of medical knowledge and to be useful after death. Other reasons include helping future generations, expressing gratitude for life and good health or for the medical field, to avoid a funeral or to avoid waste^[14]. Many researchers studied the various factors which affect the willingness to donate the body and concluded that males and people from young age are more willing to donate body^[15, 16, 17]. Also, longer hospital stay motivates a person for body donation and organ donation because they had realized their value^[18]. There are some negative factors which affect the voluntary body donation. Lack of awareness, fear

that the body is not treated with respect and dignity are the most important reasons which prevent the body donation^[19,20, 21]. In general population, 78% of peoples are not aware that they can donate body for teaching and research purposes^[22].

Measures to improve the body donation : The need of cadavers has far exceeded and which cannot be full fill by only unclaimed bodies. Hence, it is essential to promote the public for body donation. It is necessary to create awareness among people about voluntary body donation for teaching and research purposes. There is need of organized efforts to make the awareness about donation. For effective awareness use of electronic media (Radio talk, TV), paper media, NGOs, social workers are used for campaigns. Public education programs should be coordinated with political and religious leadership^[23]. Peoples are educated by putting posters, circulating pamphlets regarding body donation Assurance should be given to prospective donors that their bodies will be treated with respect and dignity by medicos^[24]. Proper guideline and assistance about body donation should be given and proper counseling of prospective donor and his next kin should be done^[3]. Medical students should give the respectful treatment to cadaver and they should be thankful to them.

Conclusion : Till date cadaver dissection is a sole teaching tool to study the human anatomy which is the basic and important subject in each branch of medical field. Main source for cadaver for medical institute is unclaimed bodies and occasionally donated bodies to medical colleges. But, the need of cadavers has far exceeded and which cannot be fulfilled by only unclaimed bodies. Therefore, it is essential to motivate the people for body donation by using electronic media (Radio talk, TV), paper media, NGOs, social workers.

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