



D63 Evaluation of Fatal Sexual Violence Against Women: Collaboration Between Forensic Clinical Nurse Specialist and Body Donation Program

Sharon R. Crowley, RN, MN*, 122 Emeline Avenue, Santa Cruz, CA 95060; and Charlotte A. Wacker, MS, University of California, Davis, Donated Body Program, 4800 Broadway, Suite 100, Sacramento, CA 95820

The goals of this presentation are to (1) describe the forensic research partnership between a body donation program and a Forensic Clinical Nurse Specialist, via studies to provide a theoretical framework for the medical evaluation of fatal sexual violence, (2) describe the sample population of female cases from a body donation program, which serve as controls for the study of fatal sexual violence in women, and (3) describe a few of the myriad opportunities available to forensic scientists through collaboration with body donor programs.

This presentation will impact the forensic science community by (1) improving the diagnostic acumen of the forensic nurse examiners in postmortem anogenital examinations, (2) facilitating the development of a theoretical framework for medical evaluation of fatal sexual violence against women, and (3) facilitating knowledge and awareness within the forensic community of the capacity for future forensic research endeavors through donated body programs.

There are 112 whole body donation programs associated with medical schools or other academic entities, within the United States. In 2004, Wacker and Schmitt (AAFS, 2004) discussed both the traditional use of whole body donors, as well as the potential application to several areas of the forensic sciences. Traditional utilization of such donor specimens is found daily in medical education and research venues that incorporate surgical trials, biomechanical research, emergency procedures, and techniques for anatomic dissection (Wacker and Schmitt, AAFS, 2004).

The University of Tennessee, at Knoxville (UTK), is a well-recognized leader in forensic research. Every year, UTK utilizes approximately 50 human bodies for forensic anthropology studies (Wacker and Schmitt, AAFS, 2004). A non-exhaustive list of forensic professions with whole body donor application potential include anthropology, pathology, botany, entomology, and odontology. Now, that a successful liaison has been established, forensic nursing has been added to that list.

The Donated Body Program, at the University of California, at Davis, accepts donation of more than 100 bodies annually, for use in research and education, by individuals, and institutions. The stated goals of the Program in this regard are:

- Assist in education and continuing education of current and future health care practitioners, anatomists, forensic scientists, and mortuary technicians.
- Biomedical, forensic, and other scientific research that will assist in the development of procedures and/or products with general intent of improving the human condition." (Donated Body Program, UC Davis, CA, 12 February 2007).

In an effort to accumulate baseline cases for the study of the nature and appearance of the anogenital tissues during the postmortem interval, an IRB proposal was submitted and accepted by the University of California Davis Donated Body Program. Initial examinations on female cases commenced in March, 2007, and are ongoing.

In addition to contagious diseases, some of the general medical conditions that bar acceptance for medical study include obesity, extensive, metastasized cancers, diseases associated with muscular atrophy (e.g., muscular sclerosis), recent surgery, autopsy, traumatic injury, and certain diseases, e.g., arterial/vascular processes that impede either instruction of "normal" anatomy or specimen preservation.

Materials and Methods: This observational study is conducted on female whole body donors, ≥ 18 y.o. For this project, specimens are fresh, or fresh frozen, vs. embalmed. The majority of cases are received by the Sacramento County Coroner's Office Morgue within 24 hours of death. Cases are tested for Hepatitis A, B, and HIV. Available, non-identifying demographic data is collected and cases for the current project are assigned a unique identifier for entry into a modified *Sexual Homicide Database* (Crowley, AAFS/1998; 2000; JFS/2004). Some of the variables include age, ethnicity/race, cause of death, date of death, interval from date of death to receipt by Program, concomitant medical processes, examination methods, photography, and examination adjuncts.

Crowley's mobile system of technology for the examination of postmortem genital examinations with colposcopy is used on these baseline cases, which are examined at the Sacramento County Coroner's Office Morgue (JFS, 2004). Eleven anatomic sites of the anogenital anatomy are routinely inspected and photographed. Comparison photographs are made with a digital single lens reflex (SLR) camera and a colposcope at 7.5, 15X magnification, or both. The genital examination also incorporates speculum insertion and anoscopy. In select cases, the 1% nuclear stain, toluidine blue, is applied and appropriately decolorized, in order to evaluate the efficacy of this adjunct as a tool in the postmortem examination.

In addition to the photographs from the SLR camera and the colposcope, a *postmortem worksheet* was developed to document the salient findings of the examination.

Discussion: Due to expertise with living sexual assault victims, forensic nurses and other experts are increasingly called upon to assist the forensic pathologist/medical examiner with the evaluation of select homicide cases to help determine concomitant sexual assault. The overall goal of this study project is to incorporate



General Section – 2008

representative samples of natural, accidental, suicide, and non-sexual homicide. The Davis Donated Body Program provides excellent samples of natural death. One variable that may be unique to the Program sample is the greater age of the sample population thus far. In and of itself, this has been a valuable contribution. Traditionally, the number of reported postmenopausal living sexual assault victims has always been small, in comparison to younger victims. Thus, there has been a dearth of information about normal genital anatomy obtained via colposcopic examination of living victims in this age group. The opportunity to examine numerous cases of postmenopausal women that died a natural death is yielding extremely valuable data.

Whole body donors are received in a timely manner and appropriately stored in the coroner's morgue, consistent with the standards for storage of human remains. The incorporation of cases from the Donated Body Program has provided an unprecedented opportunity to study both in great detail and in a timely manner, the nature and appearance of the anogenital tissues in the postmortem interval. Depending on concomitant medical and/or gynecological conditions, the anogenital tissues are in excellent condition and offer unparalleled opportunity to study early postmortem changes.

The generous donation of these individuals has afforded a needed research opportunity. On a larger scale, their gift has helped to provide a framework from which we can begin to understand the traumatic changes that occur in the aftermath of fatal sexual violence against women.

Fatal Female Sexual Violence, Body Donor Program, Forensic Clinical Nurse Specialist