ORIGINAL ARTICLE

MENSTRUAL PHASE OF WOMEN AND DEATH DUE TO DELIBERATE SELF HARM: AN AUTOPSY STUDY

Sujith Sreenivas C¹

HOW TO CITE THIS ARTICLE:

Sujith Sreenivas C. "The Menstrual Phase of Women and Death Due to Deliberate Self Harm: An Autopsy Study". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 05, January 15; Page: 762-766, DOI: 10.14260/jemds/2015/110

ABSTRACT: The study was conducted by determining the phase of menstruation of women, who committed suicide by subjecting the uterus for gross and histopathological examination. An understanding whether there was an increased incidence of deliberate self-harm during any particular phase of menstruation was made by this study. **AIMS:** Determination of menstrual phase by conducting histopathology studies of uterus in females who died of a deliberate self-harm. To know whether there is an increased incidence of suicidal deaths during the premenstrual, menstrual or paramenstrual phase of menstrual cycle with reference to the age of the subject. A prospective study of thirty consecutive cases of suicide belonging to the age 15-30 years brought to the department of forensic medicine in the year 2013-14 for autopsy. The uterus was evaluated by histopathology and the menstrual phase determined and analyzed. The observations revealed no significant increased incidence of suicide during any particular menstrual phase.

KEYWORDS: Menstrual phase, Deliberate self-harm, Autopsy study.

Her mind is like a kaleidoscope in which myriads of patterns form and fade. She plays the part expected of her in this complex world and passes on unknown and unheard, often taking her life with her own hands. "Frailty, thy name is woman"

INTRODUCTION: The Study evaluates the menstrual phase of females of age above 15 years and below 30 years by conducting histopathology studies of the uterus at the time of death. The psychological and somatic symptoms which a woman presents during the four days prior to menstruation are called premenstrual syndrome; the symptoms being recurrent (minimum of three consecutive cycles) and absent during the period after menstruation. When the symptoms of the oncoming period are mild they are known as "Molimina". When the symptoms become exaggerated and disturb the normal pattern of existence the patient has premenstrual tension. In severe cases, the woman literally becomes a witch against her will, presenting with personality changes. Petty annoyances bring forth emotional outbursts out of proportion to the magnitude of irritation; the violence of the response may be followed by seemingly uncontrolled weeping spells. A state of "temporary insanity or incompetence" exists in the premenstrual phase.

Impaired efficiency of mental faculties during the premenstrual syndrome may lead to death by deliberate self-harm. Suicidal tendencies during menstruation were highlighted by Mc Kinon¹, Pallies² has confirmed the same.

MATERIALS AND METHODS: The study was done in the Department of Forensic Medicine, Govt. Medical College, Kozhikode in the year 2013-14. The age of deceased woman of the range 15-30 were studied. All deaths due to deliberate self-harm were analyzed. Decomposed dead bodies and delayed

ORIGINAL ARTICLE

death following attempted suicide were excluded from the study. The uterus and appendages were removed enmasse and examined. The uterus was slit open vertically along the midline and one half preserved for histopathology evaluation. The endometrium and uterine cavity was examined. Histopathology evaluation was conducted which revealed the following changes during each menstrual phase.

PROLIFERATIVE (FOLLICULAR) PHASE: (Fig. 1 and 2): The endometrium is composed of a simple columnar secretory epithelium overlying a broad lamina propria. Long tubular glands, the uterine gland, are present in the lamina propria. Inter glandular stroma is abundant. Cross section of coiled arteries is seen in the deep layer of the endometrium, but not yet in the superficial layers which contain only veins and capillaries. The connective tissue or stroma of the endometrium is a “cellular” type with masses of branching fibroblasts resembling mesenchymal cells held in a meshwork of reticular fibers and fine collagenous fibers. It is more compact in the basalis. The endometrium is firmly attached to the underlying myometrium which consists of compactly arranged smooth muscle bundles separated by thin partitions of connective tissue and arranged into three poorly defined layers.

Fig. 1: Low Power 40 x

Fig. 2: High Power 400 x

SECRETORY (LUTEAL) PHASE: (FIG. 3 AND 4): During the secretory phase, the endometrium becomes much thicker due largely to the increase in secretory activity of the glands and to oedema fluid in the stroma. Cells of the glands have hypertrophied because of the accumulation of large quantities of secretory products. The glands have become tortuous. Lumens are dilated and are often filled with secretion. In the stroma tissue fluid has increased greatly causing oedema. The coiled arteries have extended throughout the endometrium into its superficial part.

These changes in the glands and stroma take place throughout the greater part of the functionalis layer of the endometrium. In the basal stratum or basalis, neither glands nor stroma show much change during the different phases of the menstrual cycle.

Fig. 3: Low Power 40 x

Fig. 4: High Power 400x

ORIGINAL ARTICLE

MENSTRUAL PHASE: (FIG.5 AND 6): During the menstrual phase the surface of the endometrium loses its epithelium and much of the underlying tissue. The eroded surface is covered with blood clots together with fragments of disintegrated stroma and glands. Some of the intact uterine glands are filled with blood. In the deeper lamina propria, the fundi of the glands are intact. There is a moderate infiltration of lymphocytes and neutrophils. Distal portions of the coiled arteries undergo necrosis and only the deeper parts remain.

Fig. 5: Low Power 40 x

Fig. 6: High Power 100x

ETHICAL CLEARANCE OBTAINED: Procedures followed were in accordance with the Ethical standards of committee of human experimentation of institution and with the Helsinki Declaration of 1975 revised in 2000.

RESULT & DISCUSSION: (Tables 1-5): Consecutive thirty cases were analyzed in the study. The evaluation of the phase of menstruation of females who died of deliberate self-harm revealed that death had occurred in the proliferative, early secretory, late secretory and menstrual phase as follows. 40% of the deaths had occurred during the proliferative phase of the menstrual cycle and 20% of deaths had occurred in the early secretory, 20% in late secretory and 20% in the menstrual phase. The term paramenstrum includes the last four days of premenstrual and first four days of menstruation. According to Mc Kinon and Ribeiro, about half of all attempted and successful suicides in women occur during the paramenstrum. In this study, the number of females who committed suicide during the paramenstrum was 12 (40% of the female studied). The comparative evaluation of the phase of menstruation and age of the subject revealed the fact that 66.6% of deaths in the proliferative phase belonged to the age group 15-20 and as age advanced, there was a preponderance of death due to suicide in the menstrual phase of the menstrual cycle. The number of deaths in the premenstrual phase of the cycle was 12 and majority of them belonged to the age group of 15-20 years.

Phase of Menstruation	No.	Percentage
Proliferative phase	12	40%
Early secretory phase	6	20%
Late secretory phase	6	20%
Menstrual phase	6	20%

Table 1

ORIGINAL ARTICLE

Age	Percentage
15-20	8
21-25	2
26-30	2

Table 2: Proliferative Phase

Age	Percentage
15-20	5
21-25	1
26-30	0

Table 3: Early Secretory Phase

Age	Percentage
15-20	4
21-25	1
26-30	1

Table 4: Late Secretory Phase

Age	Percentage
15-20	1
21-25	1
26-30	4

Table 5: menstrual Phase

The study concludes by exposing the fact that majority of victims of suicide belonging to the age group 15-20 attempted the act during the proliferative and premenstrual phase whereas increased number of females above the age of 25 attempted the self-dismissal during the menstrual phase.

The studies of suicides and premenstrual period in the 1970s and earlier period indicated a greater number of suicides in the reproductive age of females in the premenstrual period. However the studies conducted in the present age does not reveal a significant preponderance of self-dismissal during the premenstrual phase of early reproductive age. Probably because the psychosocial developments and the improvements in educative and literary status of females in the society has imparted more confidence and reassurance to female which has to be considered as a hallmark of psychologically developed female society.

ORIGINAL ARTICLE

REFERENCES:

1. Mc Kinon II, Mc Kinon PCB, Thompson AD. Lethal Hazards of Luteal Phase of the Menstrual Cycle. Brit Med J. 1959; 1: 1015-17.
2. Pallis DJ and Holding TA. The Menstrual Cycle and Suicidal Intent. Bio Social Society. 1976; 8: 27.
3. Kessel N, Coppen A. The Prevalence of Common Menstrual Symptoms. 1963; Lancet 11: 61-64.
4. Brahams D. Premenstrual Syndrome: A Disease of the Mind? Lancet 1981; 11: 1238-40.

AUTHORS:

1. Sujith Sreenivas C.

PARTICULARS OF CONTRIBUTORS:

1. Associate Professor & Deputy Police Surgeon, Department of Forensic Medicine, Government Medical College, Kozhikode.

NAME ADDRESS EMAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Sujith Sreenivas C,
Associate Professor & Deputy Police Surgeon,
Department of Forensic Medicine,
Government Medical College, Kozhikode.
E-mail: drsujithsc@rediffmail.com

Date of Submission: 29/12/2014.
Date of Peer Review: 30/12/2014.
Date of Acceptance: 07/01/2015.
Date of Publishing: 13/01/2015.