

LETTERS TO THE EDITOR

Cervical intraepithelial neoplasia and its relationship with hormonal contraceptive methods

Cervical cancer is the second most prevalent cancer among women worldwide and constitutes about 21-35% of the female cancer in different areas of India and Bangladesh¹⁻². It develops slowly from pre-invasive cervical intraepithelial neoplasia (CIN) to invasive cervical cancer (ICC). Human papillomavirus (HPV) infection is considered as a major risk factor for its development³. Several studies found a significant association of oral contraceptive pill (OCP) with cervical cancer and the risk increased with duration of use⁴. Case-control studies concluded that the risk of cervical carcinogenesis increased with duration of use and the risk declined with time since last use⁵. Influence of some of the hormonal contraceptive methods in developing CIN was assessed among a married women population in Gynecological Outpatient Department of Bangabandhu Sheikh Mujib Medical University (BSMMU).

Cervical smear was collected from 2,500 non-pregnant married women between 22 to 45 years from June 2002 to August 2003. Among them, colposcopy was performed on 247 women due to different indications and, 60 (2.4%) had different grades of histologically diagnosed CIN (CIN I, CIN II, CIN III). Among the 60 women with CIN, 27 (45.0%) had CIN I and 33 (55.0%) had CIN II or CIN III. One hundred and fifty women with normal cervical smear and normal colposcope findings were randomly recruited as control group, after matching of age and education status with the CIN group. Among all the women who used hormonal contraception for at least two years were considered as hormonal contraception user irrespective of last contraception use. The women who used non hormonal contraception for at least two years were considered as user of other method irrespective of last contraception use.

The mean age (mean ± SD) of the women with CIN was 34.9 ± 6.8 and about 62% presented before 40 years of age. Majority of the women of both the groups were housewife.

OCP was the most widely used contraceptive method (61%) and injectable contraceptive method was used by 15% of the women.

Table I: Methods of contraception used

Methods of contraception	CIN (n= 60)	Control (n= 150)	P value
Barrier method	12 (20.0)	36 (24.0)	0.33
Combined OCP	41 (68.3)	82 (54.7)	0.04
Injectable contraceptives	8 (13.3)	27 (18.0)	0.27
IUD	6 (10.0)	10 (6.7)	0.28
BLTL*	8 (13.3)	3 (2.0)	0.002
No contraception	7 (11.7)	29 (19.3)	0.13

*Yates correction

Among the different contraceptive methods, OCP were associated with high incidence of CIN and use of injectable contraceptive method did not show any association with CIN (Table I). The independent influence of OCP (OR=2.3, 95% CI 1.1-4.5) in developing CIN remained significant. Apart from that, lower age of first childbirth showed borderline influence (OR=2.1, 95% CI 0.95-4.5) in developing CIN (Table II).

Table II: Influence of sexual, reproductive and contraceptive variables on likelihood of having CIN

Sexual variables	Unadjusted		Adjusted (after regression analysis)	
	Odds Ratio	P value	Odds Ratio	P value
OCP used (n=87)	1.08	0.07	2.3	0.02
Tubectomy done (n=11)	1.13	0.004	10.9	0.001
Marriage <18 years (n=174)	2.3	0.08	1.4	0.48
First delivery up to 18 years (n=115)	1.9	0.01	2.1	0.06

About 2.4% of the women attending BSMMU had different grades of CIN and this indicates the necessity of cervical cancer screening in all medical colleges, tertiary care centers, health care centers and family planning clinics where facilities are available for gynecological examination. In this study about 90% of the women of CIN group were married before the age of 18 years. Early marriage and childbirth showed significant risk of

developing CIN. Marriage registration may help in preventing underage marriage and childbirth. Health education of parents and population regarding risk factors of cervical cancer may help in reduction of incidences of marriage of adolescents.

Hormonal contraceptives are widely used and this method has been promoted both by health professionals and Government. In this study combined OCP was the most widely used contraceptive method (61%) and individual influence in developing on the current OCP users was proved.

Study in Sweden showed an association between OCP use (OR 3.64; 95% CI 1.91-6.93) and smoking and CIN⁶. Kjellberg et al (2000) in a population based case-control study in Northern Sweden also found that prolonged period of OCP use (>5 years) was associated with an increased risk of CIN II and III⁷. But they also showed that this risk disappeared after adjustment for HPV, smoking and age. Therefore, it is very difficult to distinguish the influence of OCP from the influence of other sexual and reproductive factors and STDs. Munoz et al by two case-control studies found that OCP and high parity appear to confer an additional risk of progression from chronic HPV infection to cancer⁸.

A multicenter study performed by University of Oxford, in a 10 years follow-up of a cohort of 17,000 women found a possible effect of OCP use on CIN (OR = 1.73, 95% CI 1.00-3.00), though the residual confounding due to sexual factors or HPV infection was not ruled out⁹. However, Salazar et al found no etiologic relationship between oral contraceptive and CIN in Mexico¹⁰. A multicenter screening trial among a cohort of 3,187 women concluded that sexual behavior is different among OC users, non-OC users and in nonusers of contraception and these risk factors predispose women to high risk HPV. The use of OC was not an independent risk factor of cervical cancer¹¹. However, this study showed OCP users are in higher risk developing CIN and many studies showed OCP users have other risk factors for developing cervical cancer. Therefore, they need cervical screening and follow-up. All these information are important for policy makers and health professionals' service providers.

We are grateful to the women who participated in this study, doctors, the nursing and laboratory staff of BSMMU for their help and kind cooperation. We would also like to express our thanks to Bangladesh Medical Research Council (BMRC) for funding this study.

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Anatomical assessment of ventricular septum in relation to the aortic valve of bovine heart

In recent decades, thromboembolic complications, ruptures, stenoses, and calcifications of the aortic heart valves cause morbidity and mortality of human patient. These complications need valvular replacement or correction with the natural valve, either mechanical or biological¹. Implantation of the valve is necessary for the correction of the diseased human valve. These implanted valves may be mechanical, may be of porcine origin or bovine pericardial origin. Now-a-days, in Bangladesh porcine aortic heart valves and mechanical valves have been using randomly in the cardiac patients, although these are expensive for the poor patients. Thinking with this view an attempt had been made for implanting the bovine aortic heart valve to the poor patients. In an initial attempt, a study had been carried out with Bangladesh Heart Research Association, and it was found that the orifice diameter of indigenous bovine aortic heart valve ranged from 21 to 35 mm², which was similar to that of human being. Because of that, conservative techniques have been progressively used in patients with valvopathies in a number of centers. Thus, the interest in the morphology of cardiac valves, which during the 60's and 70's was limited to the pathological features due to the large number of valve replacements, was extended. The more accurate knowledge of normal anatomy began to play an important role in the success of valvoplasties, as many decisions during surgery are based on the visual assessment of the changes. Detailed knowledge of the anatomical characteristics of the aortic valve should improve the understanding of its anatomy and help much to obtain the better results in conservative procedures and in this way promoting return to anatomical and functional normality. This precise knowledge also defines some details of the architecture of the aortic valve that are necessary for the development and manufacture of the prostheses. In addition to performing an anatomical assessment, they analyzed some linear variables in each cusp and documented the presence of some fenestrations close to the commissural attachments. Jatene *et al.*⁴ observed that the aortic valve annulus did not show a perfect circumference, with some variations in

the measurements of the annulus, in the cusps and in the relation with the ventricular septum.

A total of 32 bovine heart specimens were collected from the slaughter-house of Mymensingh District by adopting an aseptic measure. After rinsing away the blood, the hearts were kept in the balanced isotonic saline solution until dissection in the laboratory. The aortic heart valves of the collected bovine heart were harvested by dissection. This study included the position of the ventricular septum in relation to the aortic heart valve. Using a standard mathematical measuring scale and a cotton thread, the left coronary cusp (LC), right coronary cusp (RC), and noncoronary cusp (NC) were measured (Jatne *et al.*, 1999)⁷ using following parameters: the distance between the two septal extremities, one in between RC-LC commissure (A), another in between RC-NC commissure (B), distance between the septum and the NC-LC commissure (C) and aortic diameter (D) were measured as showing in Figure 1.

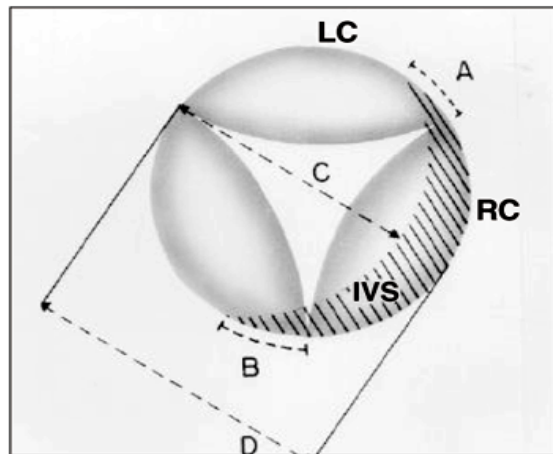


Figure 1: A Sketch showing the position of the interventricular septum (IVS) in relation to the aortic valve. LC-left coronary; RC-right coronary; NC-noncoronary; A- distance between the septal extremity and the RC-LC commissure; B-distance between the septal extremity and the RC-NC commissure; C-distance between septum and the NC-LC commissure; D-aortic diameter

The position of the interventricular septum (IVS) in regard to the aortic valve annulus and its structures, the mean values of the A, B and C measurements were 13.81 ± 1.60 mm; 14.72 ± 2.14 mm; and 17.66 ± 2.86 mm respectively. There were no statistically significant differences in regard to sex and age. The mean aortic diameter (measure D) was 23.28 ± 2.85 mm, and there were no significant sexual and age differences. The measure D, however, was smaller in hearts of animals under the age of 3 years, and it showed a progressive increase with age but statistically that was insignificant ($p > 0.05$). Therefore, the ratio C/D x