Causes of Abnormal Vaginal Bleeding in a Family Practice Center

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Abnormal vaginal bleeding had an incidence of 20.0 per 1,000 woman-years in patients of the Kanawha Valley Family Practice Center. Contraception-related bleeding was the most common cause, accounting for 28 percent of the cases. Anovulatory and dysfunctional uterine bleeding were the next most common causes, accounting for 15 percent and 13 percent, respectively. All three causes were uncommon in women aged 41 to 55 years, and absent in women older than 55 years. Perimenopausal bleeding, the dominant cause of abnormal vaginal bleeding in the 41-to-55-year group, was also absent in women older than 55 years of age. In women 56 years of age or older, endometrial carcinoma caused 28.6 percent of the bleeding; it did not occur in any other group.

Abnormal vaginal bleeding is a problem commonly seen by physicians providing primary care to the adult population. In a 1979 study on morbidity in a family practice, frequent and irregular menstruation was the 24th most common diagnostic entity.[1] This figure is consistent with the results of other earlier studies. Knowledge of the relative frequency of causes in different age groups could be used by the clinician in making the differential diagnosis.

This study was undertaken to determine the causes of abnormal vaginal bleeding for different age groups as seen at the Kanawha Valley Family Practice Center, South Charleston, West Virginia, and whether the prevalence of the common causes changes with age.

Methods

The data in this report were gathered in a retrospective chart review of female patients of the Family Practice Center. The study period covers the 2.5 years from July 1, 1979, through December 31, 1981. Excluded from the study were premenarchal female patients, women enrolled but never seen, and women enrolled for less than six months. Women who had had hysterectomy prior to the study period were excluded to avoid a bias toward nonuterine bleeding. Also excluded were women known to be pregnant at the time they presented; women found to be pregnant during their workup for abnormal vaginal bleeding were not excluded. Girls aged 13 years and under whose pubertal status was not known were assumed to be premenarchal.

Patients with abnormal bleeding were recorded as being the age at which they presented to the Family Practice Center with that complaint. Women who had hysterectomies during the study period were listed by their age at surgery, those who died by their ages at death. All others were recorded as being their age on December 31, 1981. Each patient was placed in one of five groups according to her listed age.

The diagnosis given in the patient's chart was recorded as the cause of bleeding. This resulted in the listing of anovulatory bleeding and dysfunctional uterine bleeding as two different diagnoses. The effect this has on the results is presented in the discussion section. Return visits for bleeding of the same type were not recorded, and no patient had more than one type of abnormal bleeding during the study period. Patients complaining of abnormal bleeding who were diagnosed as having a normal variant were not recorded as abnormal.

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Table 1. Patient-Group Characteristics

Group	Age Range (yr)	Total Population	Cases of Bleeding	Incidence (per 1000 woman-yr)
1	20	313	15	19.2
2	21-30	625	39	25.0
3	31-40	391	19	19.4
4	41-55	360	24	26.7
5	56	395	7	7.1

Results

From the 2,082 women included in the study came 104 cases of abnormal vaginal bleeding. The incidence of abnormal vaginal bleeding for the whole study population was 20.0 per 1000 woman-years. The study population was divided into five groups by age; Table 1 defines each group and gives the size of its total and abnormal populations. The incidence of abnormal bleeding for each group is also displayed in Table 1. It can be seen that the incidence remains relatively constant throughout the four youngest groups, but drops sharply in the oldest group.

Thirteen diagnostic classes were identified. Not every class appeared in each age group; some appeared in only one group. Table 2 lists the classes with their prevalence in the study population. The incidence of each cause of bleeding within an age group was calculated for each group. The causes seen in each group and their incidences in the group are shown in Table 3.

Table 2. Diagnostic Classes and Their Prevalances

Diagnostic Class	Prevalance (%)
Contraceptive related	1.44
Anovulatory bleeding	0.77
Dysfunctional uterine bleeding	0.67
Perimenopausal	0.58
Cervical pathology	0.53
Threatened abortion	0.19
Postmenopausal estrogen use	0.19
Endometriosis	0.14
Fibroid tumors	0.14
Postpartum bleeding	0.10
Endometrial carcinoma	0.10
Vaginal pathology postmenopausal, other	0.10 0.05

Discussion

Of the diagnostic classes, most show an age association that is predictable by age-related changes in female physiology. Only the most common classes have enough cases to show a trend with age. Table 3 shows the incidence of each cause at each age group listed in decreasing order of frequency. Each of the four most common causes (contraception related, anovulatory bleeding, dysfunctional uterine bleeding, and perimenopausal bleeding) is absent in the oldest age group. The oldest group, comprising women aged 55 years and over, included no premenopausal women; that the most common classes represent disorders in the normal physiology of women who are premenopausal is obvious.

Contraception-related bleeding represented 28 percent of the total number of cases seen. It is strongly age associated, with a rapid fall in incidence after 30 years of age. Separating the data into "oral contraceptive" and "other" shows the abrupt drop to be largely due to the absence of oral-contraceptive-related bleeding after 30 years of age. Whether the absence of oral-contraceptive-related bleeding in the older women is a result of their not using oral contraceptives or of their using oral contraceptives more successfully cannot be determined from these data.

Anovulatory bleeding peaks in the 20 year and under age group and then is almost constantly prevalent. By excluding women under 16 years of age from the first group, women aged 16 to 20 years have an incidence of anovulatory bleeding of 3.7 per 1,000 woman-years; this incidence is consistent with that of the older groups, indicating that the peak in the first group was due to the youngest women. That the highest incidence is in the youngest women is predictable by the fre-

Table 3. Incidences of the Diagnostic Classes

Diagnostic Class	Incidence (%) by Group				
	1	2	3	4	5
Contraception related	7.7	13.4	2.0	1.1	0
Anovulatory bleeding	6.4	3.2	3.1	3.3	0
Dysfunctional uterine bleeding	1.3	3.8	6.1	1.1	0
Perimenopausal	0	0	0	13.3	0
Cervical pathology	1.3	3.2	2.0	2.2	1.0
Threatened abortion	1.3	0.6	2.0	0	0
Postmenopausal estrogen use	0	0	0	2.2	2.0
Endometriosis	0	0.6	2.0	0	0
Fibroid tumors	0	0	0	3.3	0
Postpartum bleeding	1.3	0	1.0	0	0
Endometrial carcinoma	0	0	0	0	2.0
Vaginal pathology	0	0	1.0	0	1.0
Postmenopausal, other	0	0	0	0	1.0

quency with which anovulatory cycles occur before menses is well established.

The incidence of dysfunctional uterine bleeding increased with age, peaking in group 3. It then fell rapidly, and became zero in women aged over 55 years. If anovulatory and perimenopausal bleeding are considered as types of dysfunctional bleeding, the incidence peaks in the fourth group; again, the incidence is zero for the oldest group.[2] In addition, if these classes are taken together, dysfunctional uterine bleeding becomes the most common cause of abnormal vaginal bleeding, causing 40 percent of the total cases seen.

Perimenopausal bleeding demonstrated very strong age association, with all its cases being in the fourth age group. Breaking the group into 5-year subgroups and calculating the incidence of perimenopausal bleeding revealed no trend or peak. More data would be needed to determine whether any change in incidence occurs.

Cervical pathology did not show a trend associated with age in spite of its being a relatively common cause of bleeding. The incidence of cervical pathology was almost constant, with a mean of 1.9 per 1,000 woman-years. If, however, cervical pathology is separated into the two types that were seen, cervicitis and cervical polyps, each type shows a definite age association. Cervicitis was seen only in the first three groups, with its peak incidence in the second group. Cervical polyps first appeared in the third group and had their peak incidence in the fourth group. Cervical polyps represented 14 percent of the cases in the oldest group of women.

The remaining classes had too few cases to identify any trends with age. Among these were two women who presented with spotting; each was having a threatened abortion that became complete. Neither woman had known she was pregnant. Because of the risks associated with untreated abortion, this possibility should be kept in mind in all fertile women complaining of spotting.

Endometrial carcinoma was another infrequent but important cause of bleeding; only two cases were diagnosed during the study period. Both cases were in the 56 year and over group, a finding consistent with the reported peak incidence of this disease.[3] Endometrial carcinoma represented almost one third of the cases in this group. Whether it would be that great a cause of abnormal bleeding in a larger study population is not certain.

References

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