

A REVIEW OF 70 CASES OF PUBERTY MENORRHAGIA

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SUMMARY

Excessive bleeding in adolescents is a common problem although often underestimated in terms of dramatic presentation of those patients. Dysfunctional bleeding tops the list of causes, but routine investigations should be performed to exclude the other causes. Most of the severe cases have their onset within 6 months of menarche and have an irregular pattern of bleeding. Family history of similar episodes was found in only 25% of cases. A lower mean age of menarche as found in the present series, may be more significant.

Introduction

Irregular and excessive bleeding is a common problem in adolescents often loosely spoken of as puberty menorrhagia although the bleeding pattern does not always conform to the definition of menorrhagia. Sutherland (1949) in his well known series of patients with dysfunctional bleeding found only 4% of them were 20 years or under, although a 20% incidence has been found by some workers (Claessens and Cowell, 1981). It is, however, the commonest cause for emergency hospital admission in teenagers.

The perimenarchial period is associated with abnormal bleeding mostly due to delayed, asynchronous, or abnormal hypothalamic maturation and is categorised by low FSH, absence of gonadotrophic surge or a low toxic LH (Jones and Jones, 1981). Unopposed continuous production

of oestrogen is the common cause of dysfunctional uterine bleeding. In mid to late puberty, a new positive oestrogen feedback develops triggering ovulation. If this does not occur, anovulation persists. Dysfunctional bleeding, especially if severe, tends to be associated with an additional delay in physiological development of positive feed back, thereby allowing persistence of anovulation (Baired *et al.*, 1976). When ovulation does occur, there is often luteal insufficiency which may result in irregular bleeding prior to expected menses or in irregular shedding with hypermenorrhagia (Altchek, 1971).

Having said that dysfunctional bleeding is the common cause, one must not forget however that adolescent bleeding may also be caused by haematological disorders; thyroid deficiencies, psychological factors, genital tuberculosis and tumours not forgetting pregnancy complications. Dysfunctional bleeding can only be diagnosed after excluding these possibilities.

The present study is an analysis of 70

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Accepted for publication on 5-7-84.

cases of adolescents who presented with excessive bleeding.

Material and Methods

Out of 380 adolescent subjects who attended or were admitted into Eden Hospital, Medical College, Calcutta over a period from January, 1982 to September, 1982, seventy patients complained of excessive and/or irregular bleeding. The age limit for adolescents was considered to extend from 10 to 19 years. Apart from clinical examination, the routine investigations included, haemoglobin estimation, total and differential count of W.B.C., erythrocyte sedimentation rate, bleeding and coagulation times, platelet count. Radio-Iodine uptake and/or plasma bound Iodine estimation was done routinely, serum T₃, T₄, TSH level being measured in a few cases. Examination under anaesthesia and dilatation and curettage were only done in the more refractory cases.

TABLE I
Age Incidence

Age in years	No. of cases	Percentage
11	8	11.42
12	15	21.42
13	20	28.57
14	17	24.28
15	8	11.42
16	2	2.85
Total	70	100.00

Results

There were 70 cases of puberty bleeding out of a total attendance 380 adolescents giving an overall incidence of 18.4%. Of the 70 cases, 40 required hospitalisation and among them 14 were given urgent blood transfusion.

Socio-economic status was considered poor if the monthly family income was

below Rs. 250, 22.9% of the patients were below this level, while 77.1% came from average status. 12.9% of the patients were educated, upto or below Class V, while 87.1% were educated above Class VI.

The age of menarche in this group of

TABLE II
Interval Between Menarche and Onset of Excessive Bleeding

	No. of patients	Percentage
Since menarche	25	35.72
Within 6 months	18	25.72
6 months to 1 year	4	5.72
2 years	7	10.00
3 years	8	11.42
4 years	1	1.42
5 years	3	4.28
6 years and above	4	5.72
Total	70	100.00

TABLE III
Sibling Order of Patients with Puberty Menorrhagia

	No. of patients	Percentage
Only child	8	11.43
Only daughter	1	1.42
Eldest	16	22.86
Youngest	19	27.15
Others	26	37.14
Total	70	100.00

TABLE IV
Distribution According to Severity

	Hb. less than 6 Gm%	6.1-9 Gm%	9.1 and above
No. of patients	34	21	15
Percentage	48.57	30.0	21.43

TABLE V
Type of Bleeding

	No. of patients	Percentage
Irregular	25	35.71
Metropathic	17	24.28
Menorrhagia	16	22.86
Polymenorrhagea	12	17.14
Total	70	100.00

TABLE VI
Aetiopathological Factors

	No. of cases	Percentage
D.U.B.	57	81.42
Hypothyroidism	5	7.15
Pregnancy complication	3	4.28
Severe Anaemia:		
Thalassaemia	1	1.43
Nutritional	1	1.43
I.T.P.	1	1.43
Tubercular endometritis	1	1.43
Aplastic anaemia	1	1.43
Total	70	100.00

TABLE VII
Types of Endometria

	No. of cases
Proliferate and Non-secretory	5
Hyperplastic	2
Secretory	2
Irregular ripening	1
Irregular shedding	1
Products of conception	3
Tubercular endometritis	1
Total	15

patients is shown in Table 1. Almost three quarters of the patients had their menarche at 12 — 14 years, the average age being 13.11 years. This appears to be slightly lower.

The interval between menarche and onset of excessive bleeding is depicted in Table 11. 61.4% of the patients started their disorder within 6 months of their menarche. Twenty-four of the 34 severe cases or 70% of the severe cases had their onset within 6 months of menarche.

The sibling order of the patients is shown in Table III and the relation if any, to family history of similar episodes is shown in Table IV. 75% of the patients had no such family history.

The distribution of cases according to severity is shown in Table IV. Patients presenting with haemoglobin level of gm. % or below were taken as severe, 6.1 to 9 gm. % as moderate and those with the level above 9 gm. % were taken as mild. 48.7% were severe, 30% moderate and 21.4% were mild, keeping in mind that the more serious cases concentrate at the hospital. The lowest haemoglobin level 1.4 gm. % was recorded in a case of aplastic anaemia with platelet count well below 20,000 per m.m.

The various types of bleeding patterns encountered are shown in Table V. Completely irregular type of bleeding episodes was the commonest constituting more than one third of the cases. The metropathic type of bleeding with periods of amenorrhoea for 2 — 3 months followed by continuous bleeding for 2 — 4 weeks was the second most common type. Regular menorrhagia and polymenorrhoea together made up another 40% of the cases.

The aetiopathological factors responsible for bleeding episodes in adolescents is analysed in Table VI. As expected dysfunctional bleeding constituted more than 80% of the cases. The cases with hypothyroidism mostly did not have other clinical features. The case with thalassaemia had a low platelet count in addition to the case of idiopathic thrombocytopaenia. The

patient with severe nutritional anaemia had been diagnosed by the physician and she later developed menorrhagia.

Diagnostic curettage was carried out in 15 cases and the results have been shown in Table VII. Anovulation was observed in 7 cases of which only 2 had had hyperplastic changes.

Discussion

The average age of menarche in the present series is 13.1 years which is slightly lower than 13.5 years, the mean age of menarche given by recent Indian authors (Mitra and Sen, 1976; Sawhney, 1977).

More than 70% of the severe cases had their onset within 6 months of menarche and of the 14 cases that required transfusion, 10 were in this group. Thus those starting abnormal bleeding in early adolescence were the worst sufferers in terms of severity. The older the girl at menarche, the shorter the period required before regular cycles appear. Conversely, lower the age of menarche, the higher the incidence of dysfunctional bleeding episodes. Southam and Richart (1966) found 103 patients in their series of 291 adolescents (35.4%) started their symptoms with menarche. The prognosis was better in those whose symptoms started later after a period of normal menstruation. Almost 5% of patients continue to have severe episodes of anovulatory dysfunctional bleeding and these patients merit endocrinologic investigation (Altchek, 1977). The most common endocrinologic disorder is polycystic ovarian disease (Claessens and Cowell, 1981). In a series of 10 cases with polycystic ovarian disease in adolescence, 3 gave a past history of recurrent dysfunctional bleeding.

Curettage is required only in persistent cases (Davey, 1981). Of the 15 cases in which it was carried out, 4 revealed secretory change of which one had irregular

ripening and one irregular shedding. Thus not all instances of dysfunctional bleeding are associated with anovulation (Brewer and De Costa, 1957).

The commonest pattern of bleeding was completely irregular type (35.7%) followed by the metropathic type (24.28%). The irregular type is due to varying amounts of estrogen with a sudden decrease causing the endometrium to slough, while the metropathic type suggests a continuous standard level with gradual proliferation to the point where it can no longer be supposed (Altechk, 1971).

The second common cause of excessive puberty bleeding was hypothyroidism, but the physiological mechanism remains in the realm of speculation (Mck Jefferies, 1978). Adolescents with hypothyroidism tend to have milder symptoms than older women (Holligeworth, 1978). In the present series, 3 of the 5 cases had no other disturbances clinically suggestive of hypothyroidism.

The possibility of an underlying coagulation disorder has been stressed repeatedly. Burton, 1941; Seaman and Bensm, 1960; Quick, 1966; Simpson and Christakos, 1966; Konar, 1973; Danforth, 1977. Claessens and Cowell (1981) state the importance of excluding a haematological problem whenever menorrhagia occurs at menarche. In the present series, there was one case of I.T.P. which had regular menorrhagia since menarche. The role of pure iron deficiency anaemia has been stressed by Tymor *et al* (1964); Israel (1967). We had one such case apparently attributed to severe anaemia.

In persistent and continuous bleeding an abdomino-pelvic examination under anaesthesia is essential in order to exclude the possibility of a granulosa cell tumour, cervical polyp or an interfered pregnancy (Chakravarty and Gun, 1977). The last

mentioned as a cause of 3 of the cases in the present series.

Lastly, endometrial tuberculosis which is capable of all types of menstrual disturbances must not be forgotten. Konar (1973) in her series of 198 cases found 3 such cases. In the present series one such case was diagnosed after curettage.

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