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RESEARCH ARTICLE

STUDY OF ETIOLOGICAL FACTORS AND MANAGEMENT OF ADOLESCENT AUB: A PROSPECTIVE STUDY

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Abstract

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Introduction:-

1. AUB accounts for half of the gynecological problems among adolescents. Abnormal uterine bleeding (AUB) is defined as bleeding from the uterine corpus that is abnormal in duration, volume, frequency and/or regularity.
2. The underlying factors that cause AUB may have potential for long term health consequences, decrease life quality and affect school attendance. Therefore, evaluation of the menstrual cycle should be an additional vital sign to be looked into in any female adolescent during all routine visits.
3. Due to immaturity of the hypothalamic-pituitary-ovarian (HPO) axis, AUB is common in adolescents. Furthermore, inherited or acquired bleeding diathesis may further intensify the existing hormonal imbalance and increase morbidity of the underlying condition. In addition to these, hyperprolactinemia, thyroid disorders and polycystic ovary syndrome (PCOS) are the common underlying endocrine disorders. Although the management of this problem has evolved over time, the most important goal remains to alleviate the anxiety of both affected girls and their families and to identify the underlying medical conditions that may have chronic health effects for these girls.
4. Menarche usually occurs between the ages of 12-13 years. The normal cycle of an adolescent female occurs every 21-45 days with bleeding lasting between two and seven days.
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6. The frequency of cycles decreases at higher postmenarchal ages. Menstrual cycles are 21-34 days, similar to adults, in 60-80% of adolescents by the third year after menarche.
7. The average blood loss during a normal menstrual cycle is 30-40 mL, requiring the use of 3-6 pads or tampons per day or 10-15 soaked pads or tampons per cycle.
8. More than 50% of the total menstrual loss is an endometrial transudate and 30-50% consists of whole blood components. Chronic loss of ≥ 80 mL blood is associated with anemia

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Abnormal Uterine Bleeding

1. The International Federation of Gynecology and Obstetrics (FIGO) recommends the use of the term AUB to describe any aberration of menstrual volume, regulation, duration and/or frequency in a woman who is not pregnant. FIGO also proposes to discard some definitions from accepted terminology, such as “menorrhagia”, “metrorrhagia”, “hyper/hypomenorrhea”, “polymenorrhea” and “dysfunctional uterine bleeding” as they are controversial, confusing and poorly defined.
2. Heavy menstrual bleeding (HMB) is the most common clinical presentation of AUB. Formerly called “dysfunctional uterine bleeding”, refers to AUB which is not caused by structural lesions of the uterus.
3. FIGO defines the etiology of AUB using the PALM-COEIN classification [Polyp, Adenomyosis, Leiomyoma, Malignancy, Hyperplasia (structural causes); Coagulopathy, Ovulatory dysfunction, Endometrial, Iatrogenic and Not yet classified (non- structural causes)] system. AUB is very rarely due to structural problems (1.3-1.7%) in adolescents.

Aim:-

To determine the causes of adolescent AUB and to evaluate the efficacy of medical management.

Objective:-

1. To analyze age-wise distribution, clinical profile and the causes of abnormal uterine bleeding in adolescent girls.
2. To assess the efficacy of medical management in adolescent AUB.

Methodology:-

The study was conducted from June 2021 to May 2022. Informed consent was taken. Girls attending outpatient department or admitted in inpatient ward due to Abnormal Uterine bleeding were considered as study subject. After taking history, and physical examination all specific investigations were done to confirm the diagnosis of AUB, responsible etiological factor & complication if any.

A detailed history regarding

1. age of patient,
2. age of menarche,
3. time passed since menarche were enquired.
4. Regularity, duration, frequency of cycle, amount of blood loss was assessed.
5. Recent change in weight, medical illness like tuberculosis, thyroid disorder, any bleeding disorder.
6. Personal history including the use of and drug, current or recent medication, symptom associated with heavy menstrual bleeding such as PCOS, hypothyroidism were enquired.
7. Family history for coagulopathy, sexual history etc. were documented.

Study Design & Set-Up:

A prospective observational study was conducted in King George Hospital, Visakhapatnam.

Inclusion Criteria:

All adolescent girls (menarche to 19 years age group) with Abnormal Uterine Bleeding as per FIGO 2018 definition willing to participate in the study were included.

Exclusion Criteria:

1. Bleeding due to trauma.
2. Use of hormonal pills in preceding three months.
3. Pregnancy confirmed.

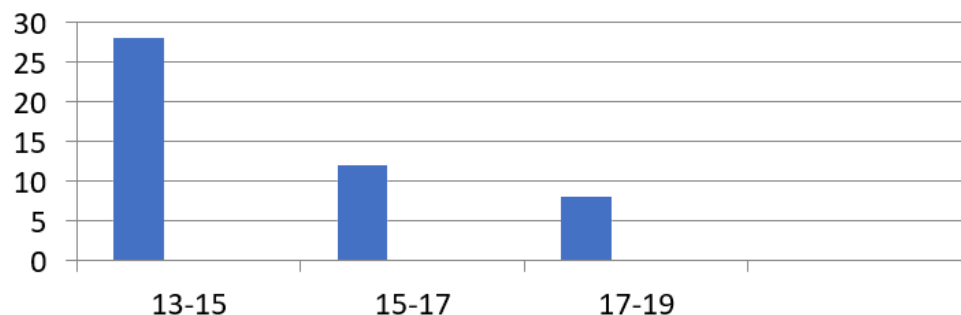
Investigations:

1. Urine for pregnancy test.
2. CBC with Peripheral blood smear
3. Coagulation profile
4. Thyroid profile
5. Serum prolactin.

6. USG Abdomen & Pelvis
7. MRI
8. TB PCR of menstrual blood

Age Distribution

AGE (in years)	n	%
13-15	28	58.33
15-17	12	25
17-19	8	16.66
Total	48	



Time Of Presentation Following Menarche

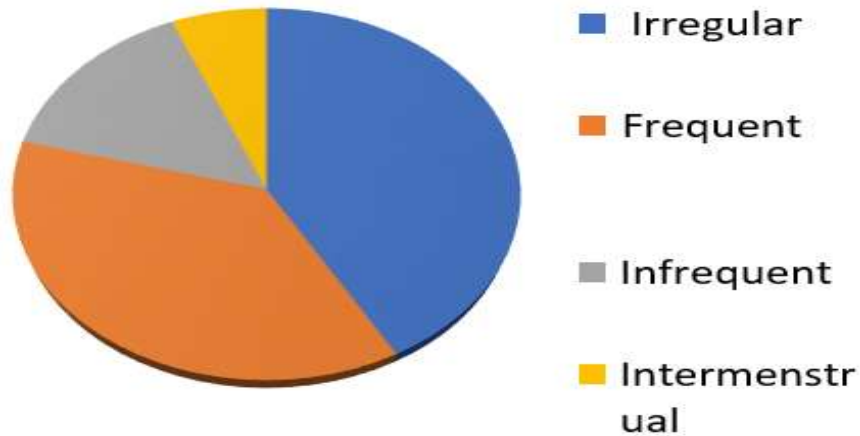
DURATION	n	%
<6 months	24	50
6 months – 1 year	16	33.33
>1 year	8	16.66
Total	48	

BMI Of The Patient

BMI (kg/m ²)	n	%
<18.5	11	22.91
18.5-24.9	28	58.33
25-29.9	6	12.5
>30	3	6.25
Total	48	

PATTERN OF BLEEDING		N	%
INFREQUENT	HEAVY	5	10.41
	LIGHT	2	4.16
FREQUENT	HEAVY	15	31.25
	LIGHT	3	6.25
IRREGULAR	HEAVY	17	35.41
	LIGHT	3	6.25
INTERMENSTRUAL		3	6.25
TOTAL		48	

Pattern Of Bleeding

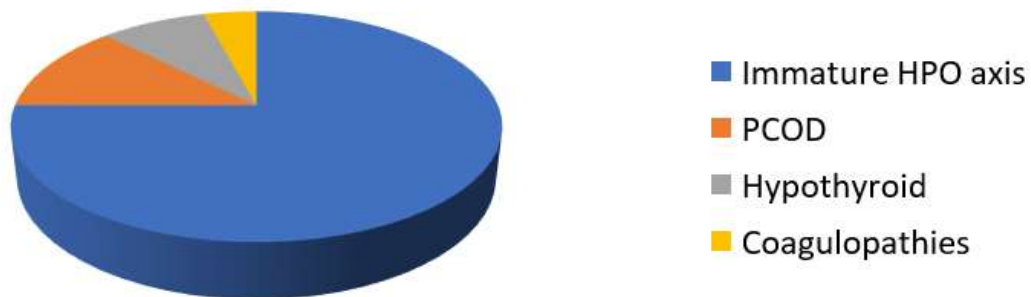


Degree Of Anaemia	n	%
Mild Anaemia (10-12gm/dl)	19	39.58
Moderate Anaemia (7-10gm/dl)	14	29.16
Severe Anaemia (4-7gm/dl)	11	22.91
Very Severe Anaemia (<4gm/dl)	4	8.33
Total	48	

Based On Etiology

CAUSE	n	%
Anovulatory due to immature HPO axis	36	75
PCOS	6	12.5
Hypothyroid	4	8.33
Coagulopathy	2	4.16
Total	48	

ETIOLOGY



Management

TREATMENT	n	%
Anti Fibrinolytic (Tranexamic Acid)	18	37.5
Progesterone	27	56.25
Biphasic OC Pills	21	43.75
Thyroxine	4	8.33

Results:-

1. In our study, most of the subjects were of 13-15yrs age group(58.33%) and 25% were between 15- 17yrs age.16.66% subjects were between 17-19yrs age group.
2. Majority of the cases presented with AUB within 6months(50%) of attaining menarche and
3. (33.33%) within 6months-1 year.
4. Most of the cases presented with heavy menstrual bleeding(77.08%).Menstrual pattern was
5. irregular in 41.66% cases,frequent in 37.5% cases and infrequent in 14.58% of cases.
6. All the study subjects were anaemic requiring iron supplementation.
7. Blood transfusions were required in 29.16% cases who were diagnosed with severe to very severe anaemia at admission.
8. Immaturity of the HPO axis is the commonest cause of menstrual irregularities in 75% cases, PCOD in 12.5% cases, hypothyroidism in 8.33% cases and coagulopathies in 4.16% cases.
9. Hormonal methods- progesterones(56.25%) and biphasic OC pills(43.75%)were given. Patients treated with progesterones were found to be better benefitted in acute HMB subjectively.
10. Antifibrinolytics were given in 37.5% of the cases. Thyroxine supplementation was given in 8.33% cases.

Discussion:-

1. Most of the girls 58.33% presented with AUB between 13-15yrs age group as similarly found in study by Samina Ashraf et.al. Around 50% of adolescent girls presented with AUB within 6 months after menarche and 33.33% within 1 year.
2. Anovulatory cause due to immature HPO axis were present in 75% cases which was at par .
3. Hypothyroidism was present in 8.33% cases which was less compared to other studies.
4. PCOD was present in 12.75% cases which is similarly found in a study by Parvathi singhet.al. Coagulopathy was detected with low Platelet count in 4.16% of cases similar to a study by Parvathi singhet.al.
5. Most of the study subject presented in OPD with complaint of heavy menstrual bleeding in 77.08%, irregular menses was present in 41.66% cases as par Manisha M Ladda et al heavy bleeding was present in 47.61% & irregular menses was present in 32.73% of subject and Parvathi singh et al heavy menstrual bleeding was present in 68.95% and irregular menses was present in 39.65% cases which is similar to our study.
6. In this period mild anaemia was noticed in 39.58% moderate in 29.16% which is similar to study done by Ratan Chandra Mandal et.al where anaemia was present in 63.5% of cases. But 22.91% were severely anaemic which is higher than other studies.

Conclusion:-

1. Abnormal uterine bleeding in adolescent girls is a major health issue of multi- factorial etiology. AUB in adolescents may be acceptable at the beginning of the reproductive age when menstrual cycle regularity is not yet established.It may sometimes be the first sign of a severe underlying bleeding disorders and should be evaluated with care and a wide differential diagnosis should be borne in mind.
2. Ovulatory dysfunction is found to be the major cause which should be reassured and can be best treated by hormonal methods. All our study subjects were anemic which necessitate iron supplementation in adolescent age group.
3. The inability to assess the amount of blood loss often lead to severe anaemia and require hospital admission and other consequence.
4. Hence assessment of each case by clinical examination and investigation are
5. Important to diagnose the aetiology of AUB for deciding the plan of management.