

## Original Article

# A Clinical Study of Adolescent Aub in a Tertiary Care Centre

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**Introduction:** Menstrual problems are Common during adolescence due to slow maturation of the hypothalamo - pituitary - ovarian axis. Puberty menorrhagia is one of the most common gynaecological problem in adolescence. About 14-16% of DUB patients are seen in the adolescent age group with significant blood loss.

**Aims and Objectives:** To know the various dermographic factors, etiological factors and their management in patients with puberty menorrhagia.

**Materials and Methods:** This study was conducted at outpatient department of Obstetrics and gynaecology at mamata medical college, khammam, for a period of 3 years. It was a cross sectional study which included 100 Adolescent girls who presented with complains of menorrhagia.

**Results:** Among the 100 adolescents, 62% with AUB were in late adolescent period and only 14% belonged to early adolescence. 30% belonged to lower middle class and 32% to upper lower class family indicating the poverty of the patients. Only 6% belonged to the Upper class family. 52% presented with complaints of Menorrhagia, 24% with Menometrorrhagia, 8% with Metrorrhagia and 16% had Polymenorrhagia. The duration of symptoms were more than 1 year in 56% and only 12% had symptoms for less than 6 months. Only 4% had severe anaemia i.e less than 4 gram %. We had 16% with haemoglobin less than 7 grams % and Majority of them had mild anaemia. 84% with Menstrual abnormality had normal findings on USG and 16% patients had PCOD. 76% were diagnosed to have DUB, 16% PCOD and 8% had hypothyroidism. 12% were treated with only Iron and Reassurance. 88% were treated with combination oral contraceptive pills, progesterone and progesterone followed with COC Pills. Along with hormones, 24% were treated with Haematinics and Ethamsylate, 10% treated with Haematinics and Metformin, Majority 42% were treated with Haematinics and Tranexamic acid. 4% had received Blood transfusion. 8% of them were treated with haematinics and Thyroxin. Among 48% of patients on COC Pills, at the end of 3rd Month of treatment only 68% had normal flow. 4% treated with only Progesterone, all of them had normal flow. 36% who were on only Progesterone and combined oral contraceptive pill, 54% had normal flow. 12% who are treated with Iron and Reassurance, only 48% had normal flow at the end of the 3<sup>rd</sup> month of treatment.

**Conclusion:** Reassurance, Counselling, Correction of anemia and improving the nutritional status will play an important role in the management of puberty menorrhagia Majority of the patients showed good response to combined oral contraceptive-pills in our study.

**Keywords:** Menorrhagia; Hypothalamo pituitary ovarian axis; Polycystic ovarian disease; Hypothyroidism

**Introduction**

Puberty menorrhagia is one of the most common gynaecological problem in adolescence. Puberty menorrhagia in adolescent age group is almost always caused by anovulatory cycles due to immaturity of hypothalamo-pituitary ovarian axis. This problem range from minor deviation from the average menstrual patterns to life threatening menarche [1]. The normal menstrual cycle usually consists of mean interval of 28 days ( $\pm$  6 days) with a mean duration of flow for 4 days ( $\pm$  2 - 3 days) [2-4]. About 14-16% of DUB patients are seen

in the adolescent age group [5]. Usually these patients present with the complaints of menorrhagia or menometrorrhagia. Novak's defines menorrhagia as regularly timed episodes of bleeding that is excessive in amount ( $>$  80 ml) and duration of flow ( $>$ 5 days). Anovulatory cycles is seen in as many as 55.7% of girls within the 2<sup>nd</sup> year of menarche decreasing to 18% in 4 years [6]. Dysfunctional uterine bleeding in the adolescent age group can be viewed with optimism. Diagnosis of DUB is by exclusion. Kistner's defines DUB is the term used to describe abnormal uterine bleeding of hormonal abnormalities in the absence of pregnancy, tumour, infection and

coagulopathy. Majority (50%) of the patients will return to regular menstrual pattern by 3-4 years after Menarche [7]. If anovulation persists for longer than 4 years, the girl has a tendency for obesity and she will have high chance of developing PCOD and Infertility [8].

## Aims and Objectives

To know the various dermatographic factors, etiological factors and their management in patients with puberty menorrhagia.

## Materials and Methods

The present study was done at Mamata medical college, khammam; from January 2017 to December 2019 over a period of three years. 100 adolescent girls with complaints of menorrhagia were studied. This cross sectional study of adolescent patients who presented with menorrhagia were analyzed to recognize the influence of dermatographic parameters, etiology of puberty menorrhagia and the effect of management. All the patients attending gynaecology outpatient department were enquired about their chief complaints, detailed history of menstrual cycles, abnormalities of menstrual cycles like menorrhagia, metrorrhagia, polymenorrhagia, polymenorrhoea and were recorded. They were also asked about the history of bleeding diathesis, hypothyroidism, hyperthyroidism, history of tuberculosis or contact history of tuberculosis and history of treatment for the similar complaints in the past and symptoms of PCOS. History obtained regarding the menstrual history were age of menarche, regularity of cycles in the past and present, history of duration of flow, history of passage of clots, number of pads used per day, dysmenorrhoea and last menstrual period. Relevant past and family history were also noted. Detailed general physical examination of the patients was done. Abdominal examination to exclude any palpable mass arising from pelvis or organomegaly. Local examination including per rectal examination in required patients was done. Investigation like haemoglobin percentage to assess the anemic status, bleeding time, clotting time, platelet count, blood grouping Rh typing, random blood sugar, abdominal ultra-sound of pelvic structures were done. In indicated patients hormonal assay like thyroid profile, LH : FSH ratio were done. All adolescent girls attending the outpatient department of O.B.G. with the complaint of menorrhagia were included in the study. patients above 20 years with menorrhagia and who did not give consent for the study were excluded.

## Results

Among the 100 adolescents, 62% with menorrhagia were in late adolescent period (Table 1). 24% were in middle adolescent period and only 14% belong to early adolescent period (Table 2). In this study group of 100 adolescents 30% belonging to lower middle class family and 32% belonging to upper lower class family indicating the poverty of the patients. Interestingly only 6% belong to the Upper class family and 20% were from lower class family and 12% were from Upper middle class family (Table 3). 52% presented with complaints of Menorrhagia, 24% presented with Menometrorrhagia, 8% presented with Metrorrhagia and 16% had Polymenorrhagia (Table 4). The duration of symptoms were more than 1 year in 56%, 32% had duration of symptom for >6 months – 1 year and only 12% had symptoms for less than 6 months. The significant observation was that even though 56% patients had symptoms for more than 1 year, only 4% had severe anaemia i.e less than 4 gram% (Table 5).

**Table 1:** Age distribution of patients.

Age in Years	No of Patients	Percentage
11-13	14	14%
14-16	24	24%
17-19	62	62%
Total	100	100%

**Table 2:** Socio-economic status of the patients.

Socio Economic class	No of patients	Percentage
Upper	6	6%
Upper middle	12	12%
Lower middle	30	30%
Upper lower	32	32%
Lower	20	20%
Total	100	100%

**Table 3:** Menstrual pattern.

Menstrual pattern	No of patients	Percentage
Menorrhagia	52	52%
Menometrorrhagia	24	24%
Metrorrhagia	8	8%
Polymenorrhagia	16	16%
Total	100	100%

**Table 4:** Duration of symptomatology.

Duration	No of patients	Percent
Less than 6 months	12	12%
6 months to 1 year	32	32%
More than 1 year	56	56%
Total	100	100%

**Table 5:** Haemoglobin distribution of patients.

Hb in grams%	No. of Patients	Percentage
<7	16	16%
7-9	24	24%
9-12	60	60%
Total	100	100%

**Table 6:** Ultrasonography.

USG Findings	No of Patients	Percentage
Normal finding	84	84%
Polycystic Ovarian Disease	16	16%
Total	100	100%

We had 16% of patients with haemoglobin less than 7 grams %, 24% of them had moderate anaemia and Majority of them had mild anaemia (Table 6). In this study, 84% with Menstrual abnormality had normal findings on USG and 16% patients had PCOD (Table 7).

76% were diagnosed to have DUB, 16% were diagnosed to have PCOD and another 8% had hypothyroidism (Table 8). 12% patients were treated with only Iron and Reassurance. 88% patients of puberty menorrhagia were treated with combination oral contraceptive

**Table 7:** Diagnosis.

Diagnosis	No of Patients	Percentage
DUB	76	76%
PCOD	16	16%
Hypothyroidism	8	8%
Total	100	100%

**Table 8:** Hormonal management.

Hormones	No of Patients	Percentage
COC	48	48%
Progesterone	4	4%
Progesterone with COC	36	36%
Without Hormones	12	12%
Total	100	100%

**Table 9:** Other modes of treatment along with hormones.

Drugs given along with hormones	No of patients	Percentage
Haematinics alone	12	12%
Haematinics & Ethamsylate	24	24%
Haematinics with Metformin	10	10%
Haematinics, Tranexamic Acid	42	42%
Blood transfusion	4	4%
Haematinics & Thyroxine	8	8%
Total	100	100%

pills, progesterone and progesterone followed with COC Pills. 48% patients were treated with COC Pills, 4% patients were treated with Progesterone and 36% patients were treated initially with progesterone to control bleeding and was followed up by 3 cycles of COC pills (Table 9).

12% Patients were treated with only Iron and Reassurance. It was observed that 88% patients also received other drugs along with hormones. 24% were treated with Haematinics and Ethamsylate, 10% treated with Haematinics and Metformin, Majority 42% were treated with Haematinics and Tranexamic acid. 4% had received Blood transfusion. 8% of them were treated with haematinics and Thyroxin for hypothyroidism.

**Response to treatment:** 48% of patients were treated with COC Pills. At the end of 3<sup>rd</sup> Month of treatment only 68% had normal flow. 4% were treated with only Progesterone and all of them had normal flow at the end of 3<sup>rd</sup> Month of treatment. Another 36% were treated with only Progesterone for the arrest of bleeding and was continued for whole cycle. Later the combined oral contraceptive pill was started from the day 5 of the withdrawal flow. With this type of treatment, 54% had normal flow. 12% who are treated with Iron and Reassurance, only 48% had normal flow at the end of the 3<sup>rd</sup> month of treatment.

## Discussion

In the present study, Among the 100 adolescents, 62% with menorrhagia were in late adolescent period. 24% were in middle adolescent period and only 14% belong to early adolescent period. This study is similar with that of Gautam Allahabadia et al [9]. In our

study 30% belonged to lower middle class family and 32% to upper lower class family. Interestingly only 6% belonged to the Upper class family and 20% were from lower class family and 12% were from Upper middle class family. This indicates the poverty status of the patients which indirectly represents nutritional status of the patients, personal hygiene and general health of patients. This study is similar to the study of Sanjay Rao et al [10]. Here 52% presented with complaints of Menorrhagia, 24% presented with Menometrorrhagia, 8% presented with Metrorrhagia and 16% had Polymenorrhagia. The duration of symptoms were more than 1 year in 56%, 32% had duration of symptom for >6 months – 1 year and only 12% had symptoms for less than 6 months. The significant observation was that even though 56% patients had symptoms for more than 1 year, only 4% had severe anaemia i.e less than 4 gram%. We had 16% of patients with haemoglobin less than 7 grams %, 24% of them had moderate anaemia and Majority of them had mild anaemia. In this study, 84% with Menstrual abnormality had normal findings on USG and 16% patients had PCOD. 76% were diagnosed to have DUB, 16% were diagnosed to have PCOD and another 8% had hypothyroidism. According to Albert altcheck et al in his study 25% patient with persistent DUB manifested as PCOD [11]. Poly cystic ovarian disease can be infrequently associated with irregular heavy bleeding in 30% of cases by Goldzeihier et al. Sanjay Rao et al in his study had observed 2.8% patients having PCOD. According to the study conducted by CD Doifode et al [12]. The incidence of hypothyroidism in this age group was 11.67%. Sanjay Roa et al observed 5.7% in his study. 34 B.S. Bhayani et al [13]. Observed 8% in his study. Douglas L. Wilansky and Bernard in their study showed that the hypothyroidism was seen in 22%. According to Claessens and Cowell [14] in his study found that the aetiology of menorrhagia as 75% DUB, 19% bleeding diathesis and 7% had other pathology. Since this study was limited to small group of patients, we did not see patients with bleeding diathesis. In our study 12% patients were treated with only Iron and Reassurance. This study simulates that study conducted by Sanjay Rao et al. 88% patients of puberty menorrhagia were treated with combination oral contraceptive pills, progesterone and progesterone followed with COC Pills. 48% patients were treated with COC Pills, 4% patients were treated with Progesterone and 36% patients were treated initially with progesterone to control bleeding and was followed up by 3 cycles of COC pills. 12% Patients were treated with only Iron and Reassurance. It was observed that 88% patients also received other drugs along with hormones. 24% were treated with Haematinics and Ethamsylate, 10% treated with Haematinics and Metformin, Majority 42% were treated with Haematinics and Tranexamic acid. 4% had received Blood transfusion. 8% of them were treated with haematinics and Thyroxin for hypothyroidism. 48% of patients were treated with COC Pills. At the end of 3<sup>rd</sup> Month of treatment only 68% had normal flow. This similar response to combined OC pills is shown by speroff et al 11 5 4% were treated with only Progesterone and all of them had normal flow at the end of 3<sup>rd</sup> Month of treatment in our study. This study is similar to that conducted by PK Khan et al, Davey D.A. et al who shows the similar response with progestogens in his study. Further in our study another 36% were treated with only Progesterone for the arrest of bleeding and was continued for whole cycle. Later the combined oral contraceptive pill was started from the day 5 of the withdrawal flow. With this type of treatment, 54% had normal flow. According to Chernock et al [16]. Progesterone was started initially, then the

dose was gradually tapered to 10 mg once daily for remaining length of cycle (21 days). Following the withdrawal bleeding, combined oral contraceptive pills were started from the D5 of with drawl flow and continued for 21 days for 2 cycles. Here 12% who were treated with Iron and Reassurance, only 48% had normal flow at the end of the 3<sup>rd</sup> month of treatment. This study has similar results has observed by PK Khan et al in his study. Among the 50 adolescents with puberty / adolescence menorrhagia with above mentioned regimes of treatment at the end of 3<sup>rd</sup> month of follow- up, 68% had normal menstrual flow. And remaining patients continued to have improved symptoms but excessive flow of 6-8 days, perhaps needing more cycles of treatment. To summarise Anovulation (most common) Due to immaturity of the hypothalamus, Hypothalamic dysfunction and Polycystic ovarian syndrome [17]. In general population 1% of individuals worldwide are diagnosed with von Willebrand's Disease. Bleeding disorders are common in women with menorrhagia with prevalence ranging from 10-50%. Von Willebrand's is the most common of all bleeding disorders with a prevalence of 5-15% among those with bleeding conditions [18]. Morbidity in the form of Loss of time from work, Psychological effects, Loss of time from school, Peer interactions, Lifestyle modification and Focussing only on the bleeding condition were noted [19]. Studies were done to compare the efficacy of oral tranexamic acid to combined oral contraceptives in reducing menstrual blood loss and improving quality of life in adolescent heavy menstrual bleeding. All patients on TA reported 100% compliance, 57% on COC reported periods of non-compliance [20]. Adolescents with inherited bleeding disorders, in 36% adolescents, menorrhagia was controlled by the use of tranexamic acid alone [21]. 35 indoor admissions in the gynecology ward at LTMG Hospital (2001-2002) for critical puberty menorrhagia over a span of two years were evaluated. Majority of patients received a combination medical therapy. Tranexamic acid was used with Biphasic OC Pills in 17.1% of cases and with progestogens in 8.5% cases [22].

## Conclusion

Reassurance, Counselling, Correction of anemia and improving the nutritional status will play an important role in the management of puberty menorrhagia Majority of the patients showed good response to combined oral contraceptive-pills in our study.

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