Original Article

Frequency of Bleeding Disorders in Teenage Girls Presenting with Menorrhagia

Menorrhagia in Teenage Girls

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ABSTRACT

Objective: Menorrhagia is quite common menstrual problem among teen aged girls with increasing proportion all over the world. This study has been done to ascertain frequency of bleeding disorders in teenaged girls presenting with menorrhagia.

Study Design: Cross-sectional study

Place and Duration of Study: This study was conducted at the Department of Gynecology, Nishtar Hospital, Multan from June 2015 to Jaunary 2016.

Material and methods; One hundred and thirty three teen aged girls having menorrhagia for more than 6 months were included in this study using non-probability purposive sampling technique which underwent relevant investigations.

Results: mean age of these young girls was 16.50 ± 1.79 years (with minimum age was 14 years while maximum age was 19 years). Most of these young girls i.e. 87 (65.4%) were aged 16 – 19 years while remaining 46 (34.6%) were aged up to 15 years. Most of these teenaged young girls 78 (58.6%) were from urban areas and 103 (77.4%) belonged to the families having poor social class. Family history of menorrhagia was present in 55 (41.4%) in these young patients with menorrhagia. Mean body mass index of these young girls was 23.22± 2.91 kg/m^2 and obesity was present 16 (12%) of these patients. Mean disease duration of menorrhagia was 14.52 ± 8.46 months and 69 (51.9%) of these young girls had history of menorrhagia for more than 12 months. Polycystic ovary syndrome was noted in 15 (11.3%) of our study cases, thrombocytopenia was present in 23 (17.3%) our patients with menorrhagia and von Willebrand disease was noted in 13 (9.8%) these young girls.

Conclusion: Menorrhagia was significantly more prevalent in young teenaged age groups having positive family history while thrombocytopenia was the most common bleeding disorder observed in our study. Patients having menorrhagia should be made aware to discuss this issue with the females of their families so that early diagnosis followed by early and proper management.

Key Words: Menorrhagia, teenage girls, bleeding disorders

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INTRODUCTION

Menorrhagia, a significant public health problem, is quite prevalent among young girls with its increasing proportion.[1] it is has been estimated that at the time of menarche, it affects about 34 % young girls.[2] Different reports have documented that 5 – 10 % of adolescent girls seek medical treatment in this time period, of which 50 % undergo surgical interventions.[1,3] for those young girls, who do not get medical treatment heavy menstrual bleeding significantly affects quality of life and has negative impact on routine daily activities like sports, various social activities and education as a result of associated symptoms.

Hence, it leads to different psychological and social issues among patients and their families so it needs special consideration as hygiene issues in these developmentally delayed young girls are important factors. These long and heavy periods are generally associated with related symptoms such as pelvic pain, dysmenorrhea, headaches and most importantly severe anemia showing its related symptoms including energy loss and easy fatigue however the reasons for not seeking medical treatment are still unclear. Detailed family history generally points towards strong family history of the disease among first and 2nd degree relatives so menorrhagia is deemed as "normal entity" by the patient and/or guardians particularly mothers of these young girls .[4]

Immaturity of the hypothalamic pituitary ovarian (HPO) axis is one of the major causes of menorrhagia which often leads to anovulation which is related with endometrial proliferation in absence of luteal phase progesterone support of the proliferating endometrial glands.

Immaturity of the HPO axis has been reported to be associated with approximately 75% cases of menorrhagia among adolescents.[5,6] Mostly menorrhagia in young girls is due to the different underlying conditions like "von Willebrand disease (vWD), platelet function disorders and coagulation factor

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deficiencies" with some other conditions which results in more blood loss may include hypothyroidism, genital tuberculosis, and polycystic ovarian disease.[7-10] Bevan et al [11] has documented frequency of thrombocytopenia was 13% and Von Willebrand disease was 7.14% in teenage girls presenting with menorrhagia. Gillani et al [12] reported in another recent study that frequency of polycystic ovarian disease was 8.6%, thrombocytopenia 8.6% and VonWillebrand disease 2.8% in teenage girls presenting with menorrhagia.

Teenage girls having gynaecological issues often suffer from certain psychological stress which exerts negative impact on their quality of life, routine daily activities at school, sports and social bindings so they may require higher degree of privacy and sensitive handling by their family members and health care professionals. There was no such study available from Pakistan, so this study was done to different bleeding disorders.

MATERIALS AND METHODS

Patients fulfilling the inclusion criteria from out-door department of Gynecology, Nishtar hospital Multan, from June 2015 to January 2016 were included in the study. Baseline demographic information of these teenaged girls such as age, BMI, family history, history of anemia, residential status, social background, duration of complain and obesity was taken. Before inclusion, informed consent was asked from attendants/guardians and/or patients after they were briefed about the objectives of our study. Young girls (aged 13 – 19 years) presenting with history of menorrhagia for more than 6 months were registered in this study while patients who were taking treatment for anticoagulants, antifibrinolytics, married girls and non – steroidal antiinflamatory drugs were not included in this study. Five ml of venous blood was drawn from the antecubital vein and it was transported in a cool vaccine box to the laboratory immediately. Transvaginal ultrasound was done by same sonologist.

Menorrhagia was defined as "if the duration of menstruation is more than seven days and the haemoglobin level <10 gm/dl on laboratory test". Polycystic ovary syndrome was defined according to Rotterdam criteria,[13] It was diagnosed if any two of following conditions present; "Oligoovulation (cycles of ≥36 days or <8 cycles a year) or anovulation (irregularity of menstrual periods), Excess androgen levels (Testosterone (free) 0.06 to 2.57 pg per ml (0.20 to 8.90 pmol per L) measured by laboratory test and Polycystic ovaries (Polycystic ovaries was defined by the transvaginal ultrasound appearance of 12 or more follicles in each ovary measuring 2 to 9 mm in diameter and ovarian volume >10 mL)". Thrombocytopenia was defined as a "platelet count of less than 150×10^3 per µL by laboratory test" and von Willebrand disease was defined as when blood test by laboratory give any one of following result; "Von Willebrand Ristocetin Cofactor VWF:RCo (lU/dL) <30, von Willebrand Factor Antigen VWF:Ag (lU/dL) <30 and VWF:RCo/VWF:AgRatio >0.5-0.7, Von Willebrand Ristocetin Cofactor VWF:RCo (lU/dL) <30, von Willebrand Factor Antigen VWF:Ag (lU/dL) <30-200 and VWF:RCo/VWF:AgRatio <0.5-0.7". Data was analyzed with statistical analysis program (SPSS version15).

RESULTS

One hundred and thirty three teenaged girls having menorrhagia were included, mean age of these young girls was 16.50 ± 1.79 years (with minimum age was 14 years while maximum age was 19 years). Most of these young girls i.e. 87 (65.4%) were aged 16 – 19 years while remaining 46 (34.6%) were aged up to 15 years. Most of these teenaged young girls 78 (58.6%) were from urban areas and 103 (77.4%) belonged to the families having poor social class. Family history of menorrhagia was present in 55 (41.4%) in these young patients with menorrhagia.

Table No. 1: Distribution of different parameters in patients having Polycystic ovary syndrome.

Parameters		Poly cystic ovary syndrome		P – value
		Yes	No	
Age	Up to 15 Years	07	39	**0.388**
	16 – 19 Years	08	79	
Residential status	Rural	00	55	**0.001**
	Urban	15	63	
Socioeconomic status	Poor	13	90	**0.395**
	Middle Income	02	28	
Family History	Yes	05	50	**0.524**
	No	10	68	
Obesity	Yes	01	15	**0.214**
	No	14	103	
Disease duration	6 – 12 months	07	57	**0.998**
	More than 12 months	08	61	

Table No. 2: Distribution of different parameters in patients having thrombocytopenia.

Parameters		Thrombocytopenia		P – value
		Yes	No	
Age	Up to 15 Years	00	46	0.001
	16 – 19 Years	23	64	
Residential status	Rural	09	46	0.997
	Urban	14	64	
Socioeconomic status	Poor	16	87	0.410
	Middle Income	07	23	
Family History	Yes	16	39	0.004
	No	07	71	
Obesity	Yes	00	16	0.073
	No	23	94	
Disease duration	6 – 12 months	09	55	0.369
	More than 12 months	14	55	

Table No. 3: Distribution of different parameters in patients having von Willebrand disease.

Parameters		von Willebrand disease		P – value
		Yes	No	
Age	Up to 15 Years	06	40	0.371
	16 – 19 Years	07	80	
Residential status	Rural	00	55	0.001
	Urban	13	65	
Socioeconomic status	Poor	07	96	0.073
	Middle Income	06	24	
Family History	Yes	07	48	0.383
	No	06	72	
Obesity	Yes	01	15	0.690
	No	12	105	
Disease duration	6 – 12 months	08	56	0.328
	More than 12 months	05	64	

Mean body mass index of these young girls was 23.22± 2.91 kg/m^2 and obesity was present 16 (12%) of these patients. Mean disease duration of menorrhagia was 14.52 ± 8.46 months and 69 (51.9%) of these young girls had history of menorrhagia for more than 12 months. Polycystic ovary syndrome was noted in 15 (11.3%) of our study cases, thrombocytopenia was present in 23 (17.3%) our patients with menorrhagia and von Willebrand disease was noted in 13 (9.8%) these young girls.

DISCUSSION

Menorrhagia in teenaged young girls leads to negative impact on quality of life and poor performance in schools and sports and often source of embracement among sufferers and generally people try to hide ailment [14 - 16]. One hundred and thirty three teenaged girls having menorrhagia were included, mean age of these young girls was 16.50 ± 1.79 years (with minimum age was 14 years while maximum age was 19 years). Most of these young girls i.e. 87 (65.4%) were aged 16 – 19 years while remaining 46 (34.6%) were aged up to 15 years. Karaman et al [15] conducted a study in Turkey has reported 14.8 ± 1.9 years mean age in young girls having menorrhagia, similar to our results. Bevan et al[11] reported 14.7 years mean in menorrhagia which is similar to our study results. A study conducted by Gillani et al [12] also reported similar results. Caki et al [17] from Turkey also documented that 65 % of the girls with menorrhagia were less than 18 years of age. Rathod et al[18] from India has reported similar results. Amesse et al[19] also reported 14.5 ± 3.5 years mean age of the menorrhagia in young girls which is similar to our results. Chi et al [20] from UK has also reported similar findings which are comparable to our results. Most of these teenaged young girls 78 (58.6%) were from urban areas and 103 (77.4%) belonged to the families having poor social class. Family history of menorrhagia was present in 55 (41.4%) in these young patients with menorrhagia. Amesse et al[19] also reported high family history with 83.7% in young girls with menorrhagia. Mean body mass index of these young girls was 23.22± 2.91 kg/m^2 and obesity was present 16 (12%) of these patients.

Mean disease duration of menorrhagia was 14.52 ± 8.46 months and 69 (51.9%) of these young girls had history of menorrhgia for more than 12 months. A study conducted by Gillani et al [12] also reported 57.14 % young girls with menorrhagia had duration of illness for

more than 1 year. Similar findings have been reported by Rathod et al[18] from India.

Polycystic ovary syndrome was noted in 15 (11.3%) of our study cases, thrombocytopenia was present in 23 (17.3%) our patients with menorrhagia and von Willebrand disease was noted in 13 (9.8%) these young girls. Bevan et al [11] has documented frequency of thrombocytopenia was 13% and VonWillebrand disease was 7.14% in teenage girls presenting with menorrhagia. Gillani et al [12] reported in another recent study that frequency of polycystic ovarian disease was 8.6%, thrombocytopenia 8.6% and VonWillebrand disease 2.8% in teenage girls presenting with menorrhagia.

CONCLUSION

Menorrhagia was significantly more prevalent in young teenaged age groups having positive family history while thrombocytopenia was the most common bleeding disorder observed in our study. Patients having menorrhagia should be made aware to discuss this issue with the females of their families so that early diagnosis followed by early and proper management

Conflict of Interest: The study has no conflict of interest to declare by any author.

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