

Managing gynecological problems in indian adolescent girls-a challenge of 21st century

Abstract

We analyzed 100 consecutive adolescent girls, who visited our clinic at P D Hinduja National Hospital from March 2014 to February 2015. They were evaluated prospectively for various clinical presentations at every visit. The most common complaint was that of oligomenorrhoea followed by menorrhagia. Oligomenorrhoea was seen in 50% of cases. Menorrhagia was seen in 28% of cases. Other complaints included leucorrhoea, mastalgia, pruritus vulvae, breast lump, pregnancy etc. Incidence of anemia was 26% in our study group. Few suffered from hypothyroidism, hyperprolactinemia, hyperandrogenism and elevated fasting insulin. 32% girls had features of PCOS on sonography. 66% required hormonal treatment, whereas 4% had to undergo surgical intervention for various indications. Over last few years, "Adolescent Gynecology" has emerged as a subspecialty in developing countries. Health Professionals dealing with adolescent age group should have empathy, friendliness and non-judgmental attitude towards their patients. Confidentiality of young people should be maintained. We need to give special attention to adolescent population as they will be the citizens and parents of tomorrow!

Keywords: adolescent, gynecology, oligomenorrhea, hyperprolactinemia, amenorrhoea, dysmenorrhoea

Volume 3 Issue 1 - 2015

Ashwini Bhalerao-Gandhi, Rajani Vaidya, Femida Bandi

P.D. Hinduja National Hospital & Medical Research Centre, India

Correspondence: Ashwini Bhalerao-Gandhi, Consultant Gynecologist, P.D. Hinduja National Hospital & Medical Research Centre, Mumbai, India, Tel 919820144748, Email ashwinibgandhi@rediffmail.com

Received: October 24, 2015 | **Published:** November 2, 2015

Introduction

India's mean age according to census 2011 is 24 years. Half of the India's population is below 25 years and around 32 % are in the 10-24 year age group. Adolescent is probably the most turbulent, challenging, stressful, uncertain phase in life of teenagers as well as their parents, teachers, health professionals. Nowadays a significant number of adolescent girls have started attending the outpatient clinic.

Adolescence stretches between the age of 10-19 years. Early adolescence comprises the 10-14 years age group.¹ It is at this stage that the physical changes usually commence with the growth spurt followed by secondary sexual characteristics. These changes can be the cause of anxiety or excitement for an adolescent girl whose body is undergoing transformation. Late adolescence encompasses the age of 15-19 years.¹ The major physical changes have already occurred by now although the body is still developing. Girls at late adolescence are at greater risk as compared to boys regarding health issues like eating disorders, anorexia / bulimia and menstrual abnormalities.

Objectives

We undertook this study to assess the clinical profile of adolescent girls in the age group of 10-19 years attending our Gynecology Clinic at P.D. Hinduja National Hospital. The objective was to evaluate various clinical presentations and different modalities of management required for the girls in this age group.

Methods

We analyzed 100 consecutive adolescent girls, who visited our clinic at P.D. Hinduja National Hospital from March 2014 to February 2015. They were evaluated prospectively for various clinical presentations at every visit. Specific proforma was filled for each of the patient which included their personal details, gynecological problems with associated complaints, menstrual history, and examination findings including height, weight, and secondary sexual characteristics. Investigations such as hemogram, hormonal assays, ultrasound etc were carried out as per requirement. Counseling for

good nutrition, physical fitness, exercise, responsible sexual behavior, immunization, contraception was undertaken as per the need of the patient.

Result and discussion

We analyzed the clinical profile of 100 consecutive adolescent girls. Various factors analyzed were age distribution, menstrual problems, investigations and treatment required.

The Table 1 shows age distribution of the girls attending our Gynecology Clinic. In our study 27% were in the early adolescent age group (10-14 years). Maximum i.e. 73% were in the late adolescent age group (15-19 years). The newly registered cases were 84% i.e. from March 2014 onwards, whereas 16% were registered before March 2014 and they had follow up visit during the study period also (Table 2).

Table 1 Age distribution

Age	Old registration	New registration	Total
10-14 years (n=27)	10	17	27
15-19 years (n=73)	6	67	73
Total	16	84	100

Table 2 Menstrual disorders

Menstrual disorders	10-14 yrs (n=27)	15-19yrs (n=73)	Total
Oligomenorrhoea/Secondary Amenorrhoea	10 (37%)	40 (55%)	50
Menorrhagia/Polymenorrhoea	15 (56%)	13 (18%)	28
Dysmenorrhoea	7	12	19
Primary Amenorrhoea	0	3	3
Hypomenorrhoea	0	5	5

The most common complaints were related to menstrual cycles, including secondary amenorrhoea and oligomenorrhoea as 50% girls suffered from the same. 37% of early adolescent girls and 55% of late adolescent girls had oligomenorrhoea. The second most common complaint was of menorrhagia, i.e. 28% of the study group had menorrhagia/polymenorrhoea. 56% of early adolescent girls had menorrhagia whereas 18% of late adolescent girls suffered from the same. Less common complaints were of dysmenorrhoea, hypomenorrhoea. It was worth noting that 3% had primary amenorrhoea.

Thus it can be seen that girls in the age group of early adolescence had menorrhagia/polymenorrhoea followed by oligomenorrhoea/amenorrhoea/dysmenorrhoea. But in the late adolescent group the picture was reversed as oligomenorrhoea was the most common complaint followed by menorrhagia/dysmenorrhoea. This shows that puberty menorrhagia is most common in the early adolescent age group and PCOS is more common in the late adolescent age group.

Table 3 gives information about the other gynecological problems and associated conditions faced by the adolescent girls in the study group. Analyzing these other complaints, it was seen that 28% had complaints of androgenic features like hirsutism, acne, acanthosis which depicts the preponderance for polycystic ovarian disease. 11% of total adolescent girls had leucorrhoea, few had vulvar problems like pruritus, two girls had breast problems like mastalgia and breast lump. Only one case of teenage pregnancy was seen during the study period and one case was diagnosed to have psychological problem.

Table 3 Other gynecological problems & associated conditions

Others	10-14 yrs (n=27)	15-19 yrs (n=73)	Total
Hirsutism	3	25	28
Leucorrhoea	2	9	11
Vulvar Problems	3	5	8
Breast Problems	0	2	2
Precocious Puberty	1	0	1
Dysuria	0	2	2
Teenage Pregnancy	0	1	1
Psychological Problems	0	1	1

Thus it can be emphasized that adolescent girls visit gynecology clinic more often for their menstrual complaints, but they also suffer from other issues like leucorrhoea, vulvar and breast problems, hirsutism etc.

Table 4 highlights the analysis of different investigative modalities.

Anemia was diagnosed in total of 26% of cases. 4 girls had severe anemia out of which 3 cases were of puberty menorrhagia. The iron requirement in an adolescent girl increases dramatically during this period as a result of expansion of the lean body mass, total blood volume, onset of menstruation etc. These changes make adolescent girls more susceptible to anemia which has long lasting consequences on growth and development in later life.^{2,3} So these girls were treated with good haematinics, control of menorrhagia and advice regarding iron rich diet was given.

Table 4 other gynecological problems & associated conditions

	10-14 yrs (n=27)	15-19 yrs (n=73)	Total
Anemia	9	17	26
Hypothyroidism	0	2	2
Hyperprolactinemia	1	9	10
Hyperandrogenism	1	8	9
Hyperglycemia/Elevated Fasting Insulin	1	8	9
Hypercortisolism	1	0	1
High FSH/LH	0	2	2
Low AMH			
Elevated Tumor Markers AFP	0	1	1

Some girls required hormonal evaluation depending on their complaints. 2 were diagnosed to have hypothyroidism. Mild to moderate hyperprolactinemia was seen in 10 cases. Hyperandrogenism was seen in 9 patients, out of which 1 pt was in the early adolescent age group. One girl had hypercortisolism. 9 girls had elevated blood sugar levels and fasting insulin levels out of which one patient was in the early adolescent age group. 2 girls had low AMH and high FSH/LH of which one girl had bilateral ovarian agenesis and the other girl had hypoplastic uterus and ovaries on sonography.

32% of total cases had features of polycystic ovaries on sonography, out of which 30% were in the early adolescent age group and 33% were in the late adolescent age group. The feature of polycystic ovaries in early adolescent age group may be false positive as it can be the physiological feature of ovaries related to that age group. Adolescent patients pose particular diagnostic problems because characteristics of normal puberty often overlap with signs and symptoms of PCOS. Ovarian appearance and volume may vary during adolescence; it has been reported that ovaries can develop a multicystic morphology over time, and enlarged ovaries with a polycystic appearance can subsequently become normal in size.^{4,5} The confusion prevails as there are no different diagnostic criteria for adolescents.

3 early adolescent girls had sonography findings of benign ovarian cysts like follicular /hemorrhagic cysts and were treated conservatively. 10 late adolescent girls had ovarian cysts on sonography out of which one case turned out to be malignant germ cell tumor that required major surgical intervention. 2 other girls also required surgery because of a large paraovarian cyst and dermoid cyst on sonography. The other girls who had simple cyst on sonography were given hormonal treatment and were followed up.

When compared to two studies from rural India-Samarth S et al.,⁶ oligomenorrhoea was the most prevalent abnormality of menstrual pattern(12.82%). 15.58% adolescents ha breast problems like mastalgia and breast lump etc. Benign ovarian cysts were seen in 1.86% adolescents.⁶ Archana et al.⁷ Menstrual disorders were commonest gynecological problems (74.1%) followed by vaginal discharge (14.3%) and ovarian tumors (4.5%) (Table 5).

The number of adolescent girls who followed up at our clinic during the period of one year is tabulated here. Number of follow

up visits, referrals to other specialties like dermatology, surgery, endocrinology etc., was analysed. As our approach was adolescent friendly and included the involvement of their parents, the girls followed up regularly. There were only few patients who were lost to follow up because they were either from other cities and had come for a second opinion or had minor problems. Adolescent clinics provide a special opportunity for girls to come out with their health problems while maintaining confidentiality. We had made efforts to create awareness in these girls by means of special educational CDs and booklets. They were also referred to dieticians and physiotherapists whenever required.

Table 5 Other gynecological problems & associated conditions

USG findings	10-14 yrs (n=27)	15-19 yrs (n=73)	Total
PCOS	8 (30%)	24 (33%)	32
Mullerian agenesis	1	2	3
Ovarian agenesis	0	1	1
Ovarian Cyst	3	10	13

As shown in Table 6 different treatment modalities were used to treat the adolescent girls. Hormonal treatment was administered to about 66 % of the cases. This shows that in early adolescent age group 70% required hormonal treatment as the main complaint was puberty menorrhagia/polymenorrhoea whereas 64% of late adolescent girls required hormonal therapy which was mainly for PCOS. The other treatment modalities included antibiotics/antifungals/antispasmodics/hematinics/hemostatics/insulin sensitizers/dopamine agonists.

Table 6 Other gynecological problems & associated conditions

No of follow up visits	10-14 years(n=27)	15-19 years(n=73)
1	9	28
2	3	15
3	3	9
4	2	6
5	4	2
>5	1	2
Lost to follow up	3	6
Referred to other speciality	2	5
Total	27	73

Surgical intervention was required in 4 cases. Amongst them one was in the early adolescent age group and the other three were in the late adolescent age group. A very rare interesting case of a 13 year old girl with uterus didelphys with unilateral complete vaginal obstruction with ipsilateral renal agenesis leading to hematometra of right horn of uterus was referred from a remote place to our tertiary centre. She had severe dysmenorrhoea during periods since menarche. She presented to us after 3 months of menarche. Ultrasonography was suggestive of uterus bicornuate bicollis with right hematometra. MRI suggested uterus didelphys/uterine septum/right sided hematometra and absent right kidney. Informed consent was taken for laparoscopic excision of vaginal septum and exploratory laparotomy/hemihysterectomy with oophorectomy (Table 7).

Table 7 Treatment modalities

	10-14 years(n=27)	15-19 years(n=73)	Total
Hormonal Treatment	19 (70%)	47 (64%)	66
1. Luteal phase progesterone	15	33	48
2. Estrogen + Progesterone	4	12	16
3. Estrogen	0	2	2
Hematinics	10	12	22
Hemostatics	8	5	13
Antispasmodic Agents	3	10	13
Antibiotics/Antifungal	3	8	11
Insulin Sensitizers	2	9	11
Dopamine Agonists	0	3	3
Surgery	1	3	4

Intraoperative findings were as follows: Hysterolaparoscopy was done. On hysteroscopy, uterine cavity of left horn appeared normal. Right horn could not be visualised.

On laparascopy uterus was didelphic, bilateral ovaries and tubes appeared normal. Bulge in the right horn of the uterus was suggestive of hematometra. Drainage of hematometra was attempted via cervico vaginal route but communication could not be made because of unilateral complete vaginal obstruction. Hematometra was drained through the rent created in the right horn of uterus. Finally decision was taken to remove the right horn of uterus to avoid restenosis/obstruction and endometriosis in view of thick vaginal septum. Laparoscopic hemihysterectomy was done.

2 girls in late adolescent age group had an incidental finding of dermoid cyst and paraovarian cyst respectively when they were being evaluated for oligomenorrhoea. Laparoscopic cyst excision was done and was given cyclical progesterone therapy for regularisation of periods.

A 17 year old girl presented with pain in abdomen and significant weight loss. On investigation, Ultrasonography as well as MRI showed large ovarian mass. Sr. AFP was raised -4115, CEA/ CA-125 /Sr.B Hcg was negative. She was posted for surgery, frozen section on table was suggestive of yolk sac tumor. The oncosurgeon performed Left sided oophorectomy. Uterus, ovaries and bilateral tubes were preserved. She underwent 4 cycles of chemotherapy. Final histopathology report confirmed Malignant mixed germ cell tumor.⁸

Conclusion

The most common complaint was that of oligomenorrhoea followed by menorrhagia. Oligomenorrhoea was seen in 50% of cases. Menorrhagia was seen in 28% of cases. Other complaints included leucorrhoea, mastalgia, pruritus, vulvae, breast lump, pregnancy etc. Incidence of anemia was 26% in our study group. Few suffered from hypothyroidism, hyperprolactinemia, hyperandrogenism and elevated fasting insulin. 32% girls had features of PCOS on sonography. 66% required hormonal treatment, whereas 4% had to undergo surgical intervention for various indications.

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non-judgmental attitude towards their patients. Confidentiality of young people should be maintained. We need to give special attention to adolescent population as they will be the citizens and parents of tomorrow!

Acknowledgments

None.

Conflicts of interest

The authors declare there is no conflict of interests.

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