Table 1 - Residents' response to the questionnaire (N=10).

Items	Strongly agree %	Agree %	Undecided %	Strongly disagree %	Disagree %	Conclusions
Objectives unclear	None	40	10	20	30	Yes, objectives of journal club are not clear
Guidelines not available	20	20	20	20	20	Equivocal response
No help from the faculty	20	40	20	10	10	Yes, no help from the faculty
Of limited clinical use	30	20	20	10	20	Yes, journal club are of limited clinical use
Waste of time	20	20	10	20	30	No, journal club is not a waste of time
Enhance research understanding*	10	30	20	20	10	Yes, journal club enhances research thinking
Difficult to conduct in English	None	10	20	10	60	No, English is not a problem for journal club
Articles difficult to find	None	50	10	None	40	Yes, articles for journal club are difficult to find
Articles should be chosen by the faculty	40	30	20	10	None	Yes, faculty should chose article for journal club
Lack of feedback	10	40	20	10	20	Yes, need feedback

*no response from one resident

problem or complaint regarding the poor feedback could also eliminated by following this approach. Lastly, residents' view on difficulty in finding the journal articles could be discussed and reported to the faculty, as faculty can guide them for interesting, relevant and recent articles. Also, many faculty members have their own subscriptions of international highly rated journals, which could be easily accessed if not found in the library. Internet could also be used as rescue.

In conclusion, most of the residents thought that journal club is a productive postgraduate activity and it should continue with slight modifications and more support from the faculty.

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ß-thalassemia major

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The thalassemias are heterogeneous group of genetic disorders in which the production of normal hemoglobin (Hb) is partly or completely suppressed due to defective synthesis of one or more globin chains. Several types of thalassemia have been described. The most common type is ß-thalassemia in which ß-globin synthesis is either reduced or totally absent. ß-thalassemia major, historically known as Cooley anemia, is the homozygous form of this disease. It has been estimated that there are probably as many as 100,000 living patients with ß-thalassemia major in the world. Madinah Maternity and Children's Hospital

(MMCH) in Madinah, Al-Munawara, Kingdom of Saudi Arabia (KSA) has 400 beds, 200 of which are pediatric, and it is the main referral hospital for the Madinah region. The upper age limit for pediatric admission is 13 years. The approximate number of children served by the hospital is 350,000 in an estimated population of 800,000. In 1992, the Thalassemia Center was established in the Pediatric Section to provide comprehensive Management of Children with Thalassemia, which includes regular blood transfusion (BT) at 2-4 weekly intervals with regular use of subcutaneous desferrioxamine (DF). The upper age limit for admission to thalassemia center is 20 years. The objective of the study was to demonstrate our experience in managing a group of children with thalassemia major.

The medical records of 67 ß-thalassemia major patients, who had been managed and followed up in our thalassemia center from January 1992 to December 2002, were retrospectively reviewed. Information extracted from the records included the clinical data at presentation, demographic characteristics, anthropometric measurements, the pretransfusion and post-transfusion Hb, general management undertaken and the complications. The data was analyzed. The diagnosis of ß-thalassemia major was based on a clinical history of pallor, jaundice and hepatosplenomegaly with Hb electrophoresis showing high HbF values (95-98%) and raised HbA2 (3.5-5%) on cellulose acetate medium at an alkaline pH 8.4. In addition, detection of ß-thalassemia minor in both parents was of diagnostic value. All patients were on a hypertransfusion regimen receiving 10-15 ml/kg of packed red blood cells (RBCs) at 2-4 weeks interval with the aim of maintaining the mean pre-transfusion Hb at 9-10 gm/dl. Subcutaneous infusion of DF at 20-40 mg/kg body weight daily and for 5 nights per week were started for all patients when serum ferritin level reached 1000 ng/ml. Additional intravenous DF (40 mg/kg body weight) was given at the time of BT in the thalassemia center. Those who did not comply with subcutaneous infusions of DF at home were given up to 60-mg/kg body weight of intravenous DF during BT. Patients who developed hypersplenism with a need for packed (RBCs) transfusion of more than 250 ml/kg body weight per year underwent splenectomy. A serum ferritin level measurement was used for determination of body iron stores and was measured at 6 months intervals. All patients were screened for hepatitis C virus (HCV) antibody by using a third generation enzyme-linked immunosorbent assay (ELISA). Positive result by ELISA was confirmed by recombinant immunoblot assay. The presence of hepatitis B surface antigen (HBsAg) was determined with appropriate commercially available assay Auszyme monoclonal. Cardiac evaluation by chest x-ray, electrocardiogram (ECG), and echocardiogram were carried out routinely for those over 10-year-old. There were 67 patients with ß-thalassemia major attending regularly to the thalassemia center. Thirty-nine (58%) were males and 28 (42%) were females. There were 30 Saudi patients (45%) and 37 (55%) non-Saudi patients. Their age ranged from 6 months to 20 years (mean 10 years). Fifty-six patients (84%) presented to the center within the first 2 years of life, and 45 patients (67%) had at least one other sibling affected with thalassemia in the family. The mean body weight and height were less than the third percentiles for reference standards in 20 patients (30%). Splenomegaly was present in 46 patients, and 23 patients had splenectomy. Hepatomegaly was noticed in 50 patients, abnormal facial configuration was observed in 36 patients. Hepatitis C virus (HCV) antibodies were detected in 33 patients, 15 patient had alanine aminotransferase (ALT) of 100 Iu/l or more and only one patient had HBsAg. The mean serum ferritin values were more than 2000 ng/ml in 35 patients (52%). Cardiac evaluations were carried out in 25 patients and 3 patients (12%) showed evidence of cardiomyopathy with left ventricular dysfunction. There were 3 (4.5%) deaths among our patients. **Table 1** summarizes the clinical and laboratory findings.

This is the first study in the Madinah region highlighting the experience in managing children with thalassemia major. ß-thalassemia is common in KSA along the coastal strip of the Red Sea and in the Eastern province around Jubail, Qatif, Dammam, and Hofuf.[1] It occurs mostly in the Mediterranean, Middle East region and in countries were people from several areas have migrated such as Madinah. Madinah Al-Munawara is a holy city with mixed population; over the years, people from various parts of Islamic and other countries have migrated to Madinah. The exact prevalence of

Table 1 - The clinical features of 67 patients with ß-thalassemia.

Clinical features	Patients n	(%)
Age of onset		
≤ 2 years	56	(84)
> 2 years	11	(16)
Abnormal facial appearances	36	(54)
Splenomegaly	46	(69)
<5cm	32	(47)
>5cm	34	(50)
Splenectomy	23	(34)
Hepatomegaly	50	(78)
Mean serum ferritin level (ng/ml)		
>2000	35	(52)
<2000	32	(48)
Hepatitis C infection	33	(49)
Hepatitis B infection	1	(1.5)
Hypoparathyroidism	2	(3)

ß-thalassemia is not known in Madinah region. Splenomegaly were found in 69%, hepatomegaly in 78%, and abnormal facial configuration in 54%. These findings indicate that our patients were receiving a sub-optimal BT regimen. Although the patients were maintain on hypertransfusion program but this could not be applied to all patients as many had poor compliance with the management protocol. Splenectomy was performed on 34% of the patient; the indications were increased transfusion requirements and massive splenomegaly in all patients, except one with splenic abscess. All our patients were over 5 years of age, and none of the patients received polyvalent pneumococcal and *Haemophilus influenzae* vaccines prior to splenectomy, instead all received intramuscular benzathine penicillin prophylaxis prior to surgery and oral penicillin prophylaxis afterwards and none of the patients developed post-splenectomy septicemia. Therefore, we recommend that splenectomy can be performed safely in children over 5 years of age with thalassemia and that pre and postoperative penicillin can be given prophylactically in the absence of the recommended vaccines.

Gallstones in thalassemia major were not reported previously, but one of our patient had gallstones, similar case was reported recently by Krishna et al.[2] Hepatitis C virus antibodies were detected in 49% of our patients . A lower prevalence was reported recently from the Eastern province of KSA.[3] Approximately 60-80% of HCV infected children developed chronic hepatitis and almost 30% are prone to developed liver cirrhosis and hepatocellular carcinoma, therefore, treatment for chronic HCV infection is recommended to prevent further complication. The recent report demonstrates a high (72.2%) sustained biochemical and virological response rate to combination treatment with alpha interferon and Ribavirin despite infection with one type of HCV (lb) genotype.[4] Elevated ALT were observed in 45% of those with HCV infection and 75% of them had raised serum ferritin (>2000 ng/ml), suggestive that blood iron overloading and hepatitis C infection contributed to liver damage in our thalassemic patients whose compliance with DF therapy was less than optimum, as 52% of our thalassemic patients had high serum ferritin. Iron overload had a negative influence on patients response to therapy and it has shown that thalassemic patients with HCV infection had little benefit from alpha interferon treatment. Two of our patients had hypoparathyroidism with the prevalence of 3% lower than what reported by Chern et al.[5] All the patients had clinical symptoms of hypocalcemia and none of the patients developed hypothyroidism. Cardiac evaluation by x-ray, ECG, and echocardiogram were carried out routinely to our patients after 10 years of age. It revealed that 12% of investigated patients had cardiomyopathy with left ventricular dysfunction. Three of our patients (4.5%) died with cardiomyopathy at approximately 20 years of age.

In conclusion, despite the use of iron chelation with subcutaneous DF at earlier age but iron overload still the major problem in thalassemia major and the leading cause of death is cardiomyopathy. Tile oral chelation agent becomes available, extensive education through frequent workshops for patients and parents to improve patients, compliance with DF is required. Recently, 2 workshops on compliance to treatment of thalassemia were held in KSA by Thalassemia International Federation, more of such workshops are required. Finally, we recommend bone marrow transplantation for children without organ impairment and further studies are required to identify ß-thalassemia gene mutation in Madinah region.

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Improving foot examination of diabetics in primary care

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Diabetes mellitus is a common and serious problem in the Kingdom of Saudi Arabia (KSA) where prevalence of diabetes approximately 12% of the population as diabetic foot neglection leads to disability of the patients as 50% of foot amputations are related to diabetes.[1] Due to several factors (peripheral neuropathy, maculopathy and retinopathy) diabetics may not be aware of their feet injuries. Early detection would save patient's life in terms of quality and quantity. For this reason, diabetic foot examination has been considered as part of many protocols for diabetic care.[2] The aim of