

Pattern of clinical Endocrine Practice in King Khalid University Hospital

Ahmed Mousa Almuhan¹, Mohamed Almaatouq², Esraa Abbas Bokhari³, Israa Mohammed Alhaji⁴, Fatimah Mohammed AlAwadh⁴, Ali Mohammed Alsaihati⁵, Aqilah Ali Alabbad⁴, Marwah Hussain Alkhamis⁴, Zahra adel ali jaffal⁶, Mohammed jawad busaleh⁴
King Saud University¹, King Khalid University Hospital², King Faisal Medical Complex, King Faisal University,⁵ Qatif Central Hospital, Almaarefa college

ABSTRACT

Background: the endocrine system releases hormones that help control body functions including the body's ability to change calories into energy that powers cells and organs. The endocrine system influences heart beats, bones and tissues growth. It plays an important role in controlling blood glucose. Moreover, it is associated with many disorders including thyroid disorders, growth disorders, and sexual dysfunction. All endocrine glands release hormones into bloodstream.

Objective: The objective of this study was to define the types of diseases seen at the only endocrine clinic in King Khalid University Hospital (KKUH).

Methods: we retrospectively analyzed the diagnosis data of all patients attending the endocrinology clinic of the University Hospital in AL Riyadh city over a 7 weeks' period.

Results: The majority of cases had thyroid related diseases (48.6%) while 12.8% had gonadal and growth diseases, 9.2% had Lipid, 7.3% had pituitary diseases, 5.5% were for wrong referrals, 5.5% and 4.9% had adrenal & vitamin D deficiency related diseases respectively.

The lowest percentages were 3.7% for parathyroid and 2.8% for metabolic bone diseases.

Conclusion: Thyroid related disorders were found to be the most common endocrine disorders presented to KKUH. Almost half of the patients had thyroid related disorders, accordingly we highly recommend that extensive efforts should be in place to recruit experienced residents as well as continuously and efficiently train existing ones on Thyroid related diseases.

Keywords: Endocrine Practice, Thyroid disorders, metabolic diseases, endocrine clinic, KKUH.

INTRODUCTION

Endocrine and other metabolic diseases are amongst the most common modern human diseases, particularly in the United States and other countries with generous nutrition and screening programs for high-risk individuals. The prevalence and incidence of certain disorders, such as diabetes and obesity, have been well defined in large population-based studies⁽¹⁾. There are mainly 8 major endocrine disorders identified; counting diabetes mellitus, thyroid related disorders, parathyroid related disorders, metabolic bone diseases, parathyroid related disorders, pituitary diseases, lipid diseases, adrenal related disorders growth hormone and gonads diseases⁽²⁾.

In the current study, we aim at defining the types of diseases perceived at the only endocrine clinic present in King Khalid University Hospital (KKUH).

METHODS

This is an observational study of all patients attending the endocrinology clinic of the KKUH. Results were recorded over a 7 weeks' period from February 2016 to March 2016 on every Wednesday. We retrospectively retrieved their

diagnostic data from the patients' files and defined their status to understand whether the

cases were new or follow-ups, then we counted the percentages for each disease by using calculator, we divided the number of patients for each specific disorder on the total of patients to know the percentage and pattern of clinical endocrine diseases and practice.

Data analysis

The diagnosis for each clinical case was recorded. Patients' diagnoses were the only data included in the analysis.

The study was conducted according to the ethical board of King Abdulaziz university.

RESULTS

109 patients were enrolled in the present study. Data was reconciled at the end, the total weeks and interpreted in Table 1 and Figure 1.

The majority of cases had thyroid related diseases (48.6%) while 12.8% had gonadal and growth diseases, 9.2% had Lipid, 7.3% had pituitary diseases, 5.5% were for wrong referrals,

5.5% and 4.9% had adrenal & vitamin D deficiency related diseases respectively.

The lowest percentages were 3.7% for parathyroid and 2.8% for metabolic bone diseases.

Table 1: shows the consolidated data for the diagnosis of all enrolled patients classified by their status (new or return)

Category	New cases	Return cases	Total patients
Pituitary	3	5	8
Thyroid	9	44	53
Para thyroid	1	3	4
Growth and gonads	3	11	14
Adrenal	2	4	6
Metabolic bone disorders	2	1	3
VD deficiency	0	5	5
Lipid	0	10	10
wrong Referral	6	0	6
Total	26	83	109

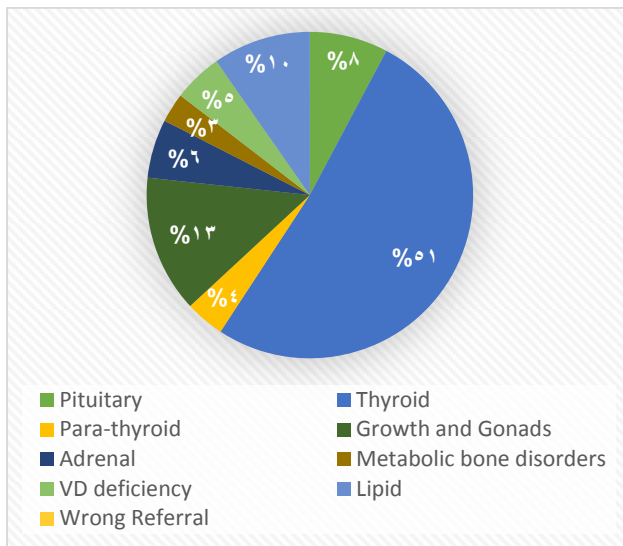


Figure 1: the percentage for each endocrine disorder concluded for the diagnosis of the 109 patients included in the study.

DISCUSSION

In the new era of a compelling demand for global health improvement, increased life expectancy has become a challenge for endocrine disorders and age-related diseases, such as osteoporosis and vitamin D deficiency⁽³⁾.

Increased survival rates for childhood cancers have provided a great insight to the practice of endocrinology, as have many endocrine disturbances such as infertility and short-stature⁽⁴⁾. In developed countries, an outpatient endocrinology department may have many discrete clinics, probably including those for thyroid disorders, thyroid cancer, pituitary disorders, pituitary cancer, reproductive endocrinology, adolescence/ transitional, late effects of childhood cancer, neuroendocrine cancer, thyroid eye disease, endocrine cancer, metabolic bone disease and endocrine genetics⁽⁵⁾.

We therefore dedicated our efforts for increasing the knowledge of the predominant endocrine diseases in our clinic that will in return impact the practice of endocrinology and training content and schedule for medical students and residents recruited.

In addition to that, this should also lead to development of new medical subspecialists and open new slots for subspecialists. Based on our findings, most of the patients seen at the endocrinology clinic of KKUH had Thyroid related diseases, which is in line with a research conducted in Jamaica, which included 1251 patients with 83% of which suffering from endocrine related disorders which is about (83%) of the total⁽⁶⁾.

There is a comprehensive systemic review had done for 70 articles in United State. Estimating the prevalence for every single disorders in separated article. The most highly prevalence conditions are diabetes mellitus, metabolic syndrome and thyroid related disorders⁽⁷⁾.

In summary, the present study counted the types of cases being seen at the endocrinology clinics in KKUH. The most frequent diagnosis was thyroid pathology. Followed by growth and gonads disorders, then lipid and pituitary related disorders, wrong referral, adrenal related disorders.

PPC, ER, other clinics should review their patients carefully before referring them to endocrinology clinic to save efforts, time and money in order to control the endocrinology clinics.

CONCLUSION

Thyroid related disorders were found to be the most common endocrine disorders presented to KKHU. Almost half of the patients had thyroid related disorders, accordingly we highly recommend that extensive efforts should be in place to recruit experienced residents as well as continuously and efficiently train existing ones on Thyroid related diseases.

REFERENCES

1. **Cowie CC, Rust KF, Byrd-Holt DD, Eberhardt MS, Flegal KM, Engelgau MM, Saydah SH, Williams DE, Geiss LS and Gregg EW (2006):** Prevalence of diabetes and impaired fasting glucose in adults in the U.S. population: National Health and Nutrition Examination Survey 1999–2002. *Diabetes Care*, 29:1263–1268.
2. **Mokdad AH, Bowman BA, Engelgau MM and Vinicor F (2001):** Diabetes trends among American Indians and Alaska natives: 1990–1998. *Diabetes Care*, 24:1508–1509.
3. **Lips P (2001):** Vitamin deficiency and secondary hyperparathyroidism in the elderly: consequences for bone loss and fractures and therapeutic implications. *Endocr Rev.*, 22: 477 – 501.
4. **Miyoshi Y, Ohta H, Hashii Y et al. (2008):** Endocrinological analysis of 122 Japanese childhood cancer survivors in a single hospital. *Endocr J.*, 55: 1055 – 1063.
5. The Society for Endocrinology(2001): Peer review in endocrinology: self assessment questionnaire Bristol: The Society for Endocrinology (available at: <https://www.endocrinology.org/media/1550/sfe-peer-review-self-assessment-questionnaire.pdf>).
6. **Wright-Pascoe R (2010):** Endocrine Disorders in a Specialist Hospital in Jamaica. *Journal of International Medical Research*, 38(5):1808-15.
7. **Sherita H. Golden, Karen A. Robinson, Ian Saldanha, Blair Anton, and Paul W Ladenson (2009):** Prevalence and Incidence of Endocrine and Metabolic Disorders in the United States: A Comprehensive Review. *The Journal of Clinical Endocrinology & Metabolism*, 94(6):1853-78.