

The endocrine quiz

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ABSTRACT

With the recent explosion in endocrine conferences, audience fatigue has set in and conference planners are now looking at newer pedagogic methods to revive the interest of audiences in these conferences. The endocrine quiz has finally come of vogue and is increasingly becoming one of the most popular attractions of any ranking endocrine conference. The endocrine quiz has a large and varied palette and draws questions from religious scriptures, history, literature, current affairs, sports, movies and basic and paramedical sciences. The more we delve into the quizzable aspects of endocrinology, the more we realize that endocrinology is ubiquitous and there is no sphere in human life untouched by endocrine disorders. Be it epic characters like Kumbhakarna and Bheema, fiction characters like Tintin or Orphan Annie, sportspersons like Gail Devers or heads of state like George Bush Sr and Boris Yeltsin, all have contributed to the melting pot of endocrine quizzing. Adding further grist to the endocrine mill are the Nobel prizes, with their attendant anecdotes and controversies. Step into this world of endocrine quizzing to have an up close and personal look at the diverse facets of this subject.

Key words: History, literature, mythology, quiz, rainbow, scriptures

INTRODUCTION

The words “hormones” “diabetes,” “obesity,” and “Vitamin D are now familiar names, known to almost every adult and child.” Yet, endocrinology, not so long ago, was considered an esoteric subject, belonging to the laboratory bench rather than to the clinical ward or outpatient clinic. Today, however, endocrine diseases have taken epidemic proportions. Along with the rise in incidence of endocrinology, there is an equal step up in the rate of research and development activities in endocrine science. Newer discoveries continue to be reported in the fields of endocrine pathophysiology, and are matched by innovations and inventions in diagnostic as well as therapeutic endocrine praxis.

In spite of, and perhaps because of, this unchecked expansion in the quantum of science, students and practitioners of endocrinology struggle to remain abreast with current developments. This challenge is also faced by conference planners, who struggle to devise newer pedagogic methods of keeping delegates engaged in the conferences. The humble quiz steps up to meet this challenge.

For the ardent endocrine quizzier, the current socio-academic scenario is similar to that of Alice in Wonderland. There exists a treasure trove of supposedly mundane, trivial, events and phenomena, which lend themselves to the study of endocrinology. Quizzing makes this study interesting, and converts a boring chore into a fun-filled activity.

This review describes the various colors of the endocrine rainbow, which can be used in quiz planning. It serves as a guide for those wishing to prepare for future competitions, either as quizzers or as “The quizzed.”

RELIGIOUS SCRIPTURES

Religious scriptures provide a source of interesting questions for the endocrine quiz.

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Biblical characters such as Goliath, and important Mahabharata players such Bhima contribute to the kaleidoscope of endocrine quizzing. Both may have had acromegaly. King Asa, mentioned in the Chronicles 2 book of the Bible, probably had a gangrenous diabetic foot, or perhaps gout.

Hindu literature is particularly rich in endocrine descriptions: The Ramayana records King Dasharatha's three wives, including Kausalya, Kaikeyi, and Sumitra partaking of a medicated rice pudding, perhaps the first recorded example of ovulation induction. Manthara, the wet nurse of Kaikeyi is portrayed with an osteoporotic dowager's hump. In the Mahabharata, Bhishma Pitamah is said to have intractable pain in his foot, which might have been a neuropathy. The somnolence of Kumbhakaran/Kumbhakarna could have been hypothyroidism or sleep apnea, while the paralysis of Lakshmana, revived by Hanuman's Sanjivini buti panacea, could have been a form of hypokalemic paralysis.

MODERN LITERATURE AND LANGUAGE

Quizzes often rely on popular literature as a source of questions. Tintin, who is supposed to have had traumatic hypopituitarism leading to hypogonadotropic hypogonadism,^[1] easily qualifies as an endocrine teaser. Charles Dickens also created another character with metabolic disease: Joe, the "fat boy." With obstructive sleep apnea, he is a supporting hero in the novel, *The Posthumous Papers of the Pickwick Club*, hence the eponym "Pickwickian syndrome."

Orphan Annie – eyed appearance, inspired from a cartoon character by Harold Gray, can be used to describe certain endocrine diseases. A few more anecdotes: (i) Marco Polo, while traveling in Turkestan in 1271, wrote about the province of Karkan, "...the inhabitants of which are in general afflicted with swellings in the legs and tumors in the throat occasioned by the quality of the water they drink."^[3,4] almost certainly referring to endemic goitre due to iodine deficiency (ii) Writer H.G. Wells who was diagnosed with diabetes in 1930 and started on insulin, together with his doctor Lawrence, who himself was a diabetic, set up Diabetes UK, the first worldwide diabetes research foundation.

The English language is an unexpected source of endocrine-related queries.

An anagram is a rearrangement of letters of the word, to create a totally different word, e.g. MOTHER IN LAW = WOMAN HITLER. One may be asked to unravel anagrams (name the insulin that was linked with breast

cancer: LARGE GIN, or spell the drug used in endocrine oncology: NATIVE BAND). Large gin is an anagram of glargine, while the latter stands for vandetanib.

Endocrine knowledge can also be tested by metaphors and similes: What is the commonest cause of the disease which you are reminded of by the simile "as black as coal"? Which endocrine disease is described by "pumpkin on stick" appearance? The Five F's: Fair fat fertile female of forty suggest which endocrine disease? The answers to these are easy, and need not be detailed to IJEM's readership.

BASIC SCIENCES

The basic sciences are a minefield for the unsuspecting endocrine student. Anatomy contains the lateral aberrant thyroid (is it a thyroid; A parathyroid; A lymph node?), while biochemistry provides scores of receptors (does the GLP-1 receptor exist in the alpha- cells, the delta – cell or the neurons of the islets of Langerhans.) to titillate the quiz participant.

PARAMEDICAL SCIENCES

The paramedical sciences provide a bottomless pit of questions for endocrine quizzes. Pharmacology and pathology grow from year-to-year.

Sample the following questions, limited to just one subspecialty-endocrine oncology. Name the only vaccine for hormonal cancer. Name a hormonal therapy, newly approved for describing the immunophenotype of various endocrine malignancies. Which endocrine cancer has GLP-receptors (hint: It is not pancreatic cancer). Which isotope is used in the diagnosis of carcinoid tumor? Which stains are neuroendocrine tumors positive for? Which functioning pituitary tumor has Psammoma bodies?

To add variety to this kaleidoscope is forensic science. Questions on bone age, on dental age, on factitious hypoglycemia, and on detection of illicit hormone use may confound the unprepared quizzier.

HISTORY

History is an all-time favorite of all quiz masters. Endocrine history encompasses the ancient (Which endocrine cancer does the John Smith papyrus of Egypt describe?[breast tumors] How many types of diabetes are listed in the Charaka Samita?[twenty]) to the medieval (Who conducted the first recorded endocrine experiment?[Berthold]) Which physician was the first to try organotherapy on himself?[Brown-Sequard]) and the modern era (Who

coined the term “hormone” [Starling and Bayliss])? Who discovered parathyroid hormone? [James Bertram Collip]).

Animal lovers may enjoy being asked the role of dogs and rhinoceri in furthering the cause of non-diabetes endocrinology. They may also be asked which animals, and which secretions of these animals, served as sources for NPH (neutral protamine Hagedorn) insulin and hCG (human chorionic gonadotrophin) in the past. The answers are: A dog was vivisected to discover secretin; parathyroid gland was first identified in a rhino; sperm of salmon and urine of pregnant mares produce NPH and hCG.

The Nobel Prize adds its own multinational color to the smorgasbord of endocrine quizzes. Who was the first Nobel laureate in the field of endocrinology? The first woman? The oldest? And the youngest? And who died at the oldest age? What hormone did she use, to which she attributed her longevity? Answers to these, and more, can be gleaned from the pages of the IJEM, and our sister journal, Thyroid Research and Practice.

CURRENT AFFAIRS

Current affairs provide a cutting edge to endocrine quiz questions. Political figures, film actors, sportspersons, and current phenomena: All are fair game in a hormone-based quiz. One may be asked which American President probably had MEN 2b^[4] (multiple endocrine neoplasia 2 b), and who was diagnosed with Graves’ disease?^[5] And the answers are Abraham Lincoln and George Bush sr, respectively. ? To be fair to all nations, questions on the Russian President found to have severe hypothyroidism (Boris Yeltsin), or the Argentine Lady President wrongly (even in Argentina!) diagnosed to have thyroid carcinoma (Cristina Fernández de Kirchner) have figured in Indian quizzes. Multiple questions on films: Which Indian actor depicted a person with progeria, or with type 2 diabetes? Which American female actor has type 1 diabetes? Can also figure in quiz rounds, with the right replies being Amitabh Bachchan and Halle Berry.

Sportsmen and women are also favorites of quizzers, who may ask participants to name Pakistani cricketers and American tennis champions with type 1 diabetes: They are Wasim Akram and Arthur Ashe. Another favorite question is which Olympic sprinter suffered from Graves’s disease. The answer, almost always supplied by quizzers, is Gail Devers.

Unfortunate disasters often find their way into quizzes: The endocrine impact of Chernobyl and Fukushima, for example, may figure as varying, differing, questions.

Celebrities

Celebrities with endocrine disorders have always fascinated the quizzers, doctors, and non-doctors alike. For instance: Questions like (1) which famous film critic suffered from papillary thyroid cancer? (2) which famous actor who acted in two Bond movies suffered from gigantism (3) which famous actress of yesteryears suffered from Graves disease and thyroid associated ophthalmopathy and underwent thyroid surgery in Boston? (4) while it is well known that John. F. Kennedy suffered from Addison’s disease, recent research has revealed which other interesting facts about his endocrine status?

The answers to these questions (a) Roger Ebert (b) Richard Kiel, who starred in “The spy who loved me” and “MoonRaker” as Jaws (c) Sadhna Shivdasani (d). In 1955, he was diagnosed with hypothyroidism. Dr. Lee R. Mandel, a Navy Medical Corps endocrinologist in Chesapeake, Va., concluded that his hypothyroidism and Addison’s resulted from APS 2.^[6] Kennedy’s younger sister Eunice had Addison’s, and John F. Kennedy Jr., his son, suffered from Graves’ disease.

CONCLUSION

This brief review has tried to explore the various possibilities and sources of endocrine quiz questions. While this is a topic of infinite dimension, this introduction should serve to stimulate others to take this science further.

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