Bölüm 1

ADRENAL KRİZ

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GİRİŞ

Adrenal yetmezlik, adrenal bezlerin, su, tuz, enerji hemostazında görevli mineralokortikoid ve glukokortikoid, gonadotropin gibi hormonları sentezleme işlevlerini yerine getirememesi sonucu ortaya çıkan bir klinik sendrom olarak tanımlanmaktadır. Primer adrenal yetmezlik de sorun adrenal glandlardadır. İlk olarak 1855 yılında Thomas ADDİSON tarafından tanımlanmış olup, bu sebeble Addison hastalığı olarak adlandırılmıştır (1).

Sekonder adrenal yetmezlik de sorun hipofiz bezinde adrenokortikotropik hormon (ACTH) salınımındaki azalmaya bağlı olarak dolaşımdaki kortizol seviyesinin azalmasıdır. Tersiyer adrenal yetmezlikte ise hipotalamusda kortikotropin salgılatıcı hormon salınımındaki azalmaya bağlı ACTH ve kortizol seviyesinde azalma mevcuttur (2).

Adrenal kriz ile ilgili kabul gören net bir tanım olmamakla birlikte, hastanın kliniğindeki akut bozulma ile birlikte tansiyon değerinin 100 mmHg' nın altında olması ve/veya normal tansiyon değerinden 20 mmHg daha düşük olması ve parenteral glukokortikoid uygulaması sonrası 1-2 saat içinde klinik ve tansiyon değerlerinin düzelmesi olarak tanımlanmaktadır (3,4).

EPİDEMİYOLOJİ

Dünya genelinde primer adrenal yetmezlik prevelansı 110-140/milyon iken, insidansı 4.7-6.2/milyon olarak bildirilmektedir. Daha çok 4. dekat da görülmekte olup, bayanlarda erkeklere göre daha sık bildirilmektedir (5). Sekonder adrenal yetmezlik prevelansı 150-280/milyon olarak belirtilmektedir ve primer adrenal yetmezlikte olduğu gibi bayanlarda daha sık görülmektedir. Sıklığı 6. dekatta artmaktadır(6).

Adrenal kriz, adrenal yetmezliği olan hastaların yaklaşık % 6 ila 8' inde görülmektedir. Primer hipoadrenalizmi olan hastalarda adrenal krizler, ikincil adrenal

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KAYNAKLAR

1. Addison T. On the Constitutional and Local Effects of Disease of the Supra-Renal Capsules. London: Samuel Highley; 1855.
2. Tucci V, Sokari T: The clinical manifestations, diagnosis, and treatment of adrenal emergencies. Emerg Med Clin North Am 32: 465, 2014. [PMID: 24766944]
3. Rushworth RL, Torpy DJ, Falhammar H. Adrenal crises: perspectives and research directions. Endocrine 2017; 55: 336-45.
4. Allolio B. Extensive expertise in endocrinology: adrenal crisis. Eur J Endocrinol 2015; 172: R115-24.
5. Lovas K, Husebye ES. High Prevalence and Increasing Incidence of Addison's Disease in Western Norway. Clin Endocrinol (Oxf).2002;56:787-91.
6. Bates AS, Van't Hoff W, Jones PJ, Clayton RN. The Effect of Hypopituitarism on Life Expectancy. J Clin Endocrinol Metab. 1996;81:1169-72.
7. Hahner S, Loeffler M, Bleicken B, et al. Epidemiology of adrenal crisis in chronic adrenal insufficiency: the need for new prevention strategies. Eur J Endocrinol 2010; 162: 597-602.
8. Rushworth RL, Chrisp GL, Torpy DJ. Glucocorticoid-induced adrenal insufficiency: a study of the incidence in hospital patients and a review of peri-operative management. Endocr Pract 2018; 24: 437-45.
9. Hahner S, Spinnler C, Fassnacht M, et al. High incidence of adrenal crisis in educated patients with chronic adrenal insufficiency: a prospective study. J Clin Endocrinol Metab 2015; 100: 407-16.
10. Kerrigan JR, Veldhuis JD, Leyo SA*, et al*. Estimation of daily cortisol production and clearance rates in normal pubertal males by deconvolution analysis. *J Clin Endocrinol Metab* 1993; 76: 1505–1510.
11. Esteban NV, Loughlin T, Yergey AL*, et al*. Daily cortisol production rate in man determined by stable isotope dilution/mass spectrometry. *J Clin Endocrinol Metab* 1991; 72: 39–45.
12. Bancos I, Hahner S, Tomlinson J*, et al*. Diagnosis and management of adrenal insufficiency. *Lancet Diabetes Endocrinol* 2015; 3: 216–226.
13. Grossman AB. Clinical Review#: the diagnosis and management of central hypoadrenalism. *J Clin Endocrinol Metab* 2010; 95: 4855–4863.
14. Sapolsky RM, Romero LM & Munck AU. How do glucocorticoids influence stress responses? Integrating permissive, suppressive, stimulatory, and preparative actions. *Endocr Rev* 2000 **21** 55-89.
15. Bancos I, Hahner S, Tomlinson J & Arlt W. Diagnosis and management of adrenal insufficiency. *Lancet Diabetes Endocrinol* 2014.
16. Stewart PM. Adrenal replacement therapy: time for an inward look to the medulla? *J Clin Endocrinol Metab* 2004; 89: 3677–3678.
17. Besedovsky H, del Rey A, Sorkin E & Dinarello CA. Immunoregulatory feedback between interleukin-1 and glucocorticoid hormones. *Science* 1986 **233** 652-654.
18. Mealy K, van Lanschot JJ, Robinson BG, Rounds J & Wilmore DW. Are the catabolic effects of tumor necrosis factor mediated by glucocorticoids? *Arch Surg* 1990 **125** 42-47; discussion 47-48.
19. Barber AE, Coyle SM, Marano MA, Fischer E, Calvano SE, Fong Y, Moldawer LL & Lowry SF. Glucocorticoid therapy alters hormonal and cytokine responses to endotoxin in man. *JImmunol* 1993 **150** 1999-2006.
20. Morrow LE, McClellan JL, Conn CA & Kluger MJ. Glucocorticoids alter fever and IL-6 responses to psychological stress and to lipopolysaccharide. *Am J Physiol* 1993 **264** R1010-1016.
21. Burger-Stritt S, Kardonski P, Pulzer A*, et al*. Management of adrenal emergencies in educated patients with adrenal insufficiency-A prospective study. *Clin Endocrinol (Oxf)* 2018; 89: 22–29.
22. McGowan-Smyth S. Bilateral adrenal haemorrhage leading to adrenal crisis. *BMJ Case Rep* 2014; 2014. DOI: 10.1136/bcr-2014–204225.

23. Iqbal MS and Hardman J. Addisonian crisis secondary to bilateral adrenal metastases in rectal carcinoma: report of a rare case and literature review. *J Gastrointest Cancer* 2013; 44: 225–227.
24. Trainer H, Hulse P, Higham CE*, et al*. Hyponatraemia secondary to nivolumab-induced primary adrenal failure. *Endocrinol Diabetes Metab Case Rep* 2016; 2016: 16-0108.
25. Dineen R, Stewart PM and Sherlock M. Factors impacting on the action of glucocorticoids in patients receiving glucocorticoid therapy. *Clin Endocrinol (Oxf)*. Epub ahead of print 24 September 2018. DOI: 10.1111/cen.13837.
26. Iranmanesh A, Lizarralde G, Johnson ML*, et al*. Dynamics of 24-hour endogenous cortisol secretion and clearance in primary hypothyroidism assessed before and after partial thyroid hormone replacement. *J Clin Endocrinol Metab* 1990; 70: 155–161.
27. Hernandez Padilla P. [Adrenal crisis in the surgical patient]. *Cir Cir* 1962; 30: 123–141.
28. Thomsen AF, Kvist TK, Andersen PK*, et al*. The risk of affective disorders in patients with adrenocortical insufficiency. *Psychoneuroendocrinology* 2006; 31: 614–622.
29. Arlt W and Society for Endocrinology Clinical Committee. SOCIETY FOR ENDOCRINOLOGY ENDOCRINE EMERGENCY GUIDANCE: emergency management of acute adrenal insufficiency (adrenal crisis) in adult patients. *Endocr Connect* 2016; 5: G1–G3.
30. Gagliardi L, Nenke MA, Thynne TR*, et al*. Continuous subcutaneous hydrocortisone infusion therapy in Addison's disease: a randomized, placebo-controlled clinical trial. *J Clin Endocrinol Metab* 2014; 99: 4149–4157