

## ADRENOCORTICOSTEROIDS CHAPTER 18

Adrenocorticosteroids = group of agents secreted by the adrenal cortex

Dental uses

Medical Uses

Mechanism of release

stress → hypothalamus releases CRF → pituitary releases ACTH → adrenal cortex releases hydrocortisone

Mechanism of Action

GC binds to receptor → forms steroid-receptor complex

complex translocates through cytoplasm to nucleus

inside nucleus, complex alters gene expression / protein synthesis

} bottom line: takes time

Classification of Steroids

glucocorticoids

mineralcorticoids

Disease States

Cushing's Syndrome (adrenal gland tumor, pituitary gland tumor, exogenous corticosteroid)

adrenal insufficiency

primary: Addison's Disease (gradual destruction of adrenal cortex - autoimmune, TB)

secondary: (infection, tumor, surgical removal, **disuse atrophy**)

Pharmacologic effects

glucocorticoids

**anti-inflammatory (palliative - not curative)**

suppress allergic reactions

suppress immune response

anti-emetic

mineralcorticoids

1. ↑ Na<sup>+</sup> retention

2. ↑ K<sup>+</sup> loss

3. ↑ edema, hypertension

## ADR's

Glucocorticoids (see fig 18-2, pg 214)

1. metabolic changes
2. infections
3. CNS
4. peptic ulcer
5. impaired wound healing / osteoporosis
6. ophthalmic effects
7. electrolyte / fluid balance
8. adrenal crisis
9. **dental effects**
  - a. slow healing of mucosal surfaces
  - b. oral candidiasis with steroid inhalers ( common tx for asthma)

## Medical Uses

1. replacement therapy
2. autoimmune diseases
  - a. rheumatoid arthritis
  - b. collagen diseases
3. with chemotherapy in CA tx (anti-emetic/anti-nausea, and to reduce swelling which decreases pain)
4. **asthma**
5. emergencies - tx shock, tx adrenal crisis
6. tx inflammatory and allergic reactions (palliative only, not curative) (most common)

## Dental Uses

1. oral lesions - tx of **noninfectious** inflammatory diseases / Aphthous ulcers (RAS)
2. TMJ
3. oral surgery - ↓ post-op edema, trismus, and pain (?)
4. pulp procedures (?)

## Dental Implications

1. GI - stimulate stomach acid, **avoid Rx Salicylates (ASA) and NSAID's**
2. check BP - corticosteroids can exacerbate hypertension
3. glaucoma - avoid Rx anticholinergics
4. be aware of possible behavior changes
5. osteoporosis (radiograph)
6. infection - pt. has decreased ability to fight infection, infection symptoms may be masked
7. delayed wound healing - special care in suturing
8. adrenal crisis - only with **severe** stress
9. periodontal disease - interfere with body's response to infection, osteoporosis

### **Steroid supplementation**

Most dental patients taking steroids having normal dental tx rendered **DO NOT** need additional steroids.