Table 1. Summary of the main differences/relationships between glucocorticoids, androgens and estrogens

<table>
<thead>
<tr>
<th></th>
<th>Glucocorticoids</th>
<th>Androgens</th>
<th>Estrogens</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Active/less active forms</strong></td>
<td>cortisol/cortisone</td>
<td>testosterone/androstenedione</td>
<td>estradiol/estrone</td>
</tr>
<tr>
<td><strong>Main transporting protein in plasma</strong></td>
<td>corticosterone/dehydrocorticosterone</td>
<td>CBG</td>
<td>SHBG <em>(not in rodents)</em></td>
</tr>
<tr>
<td><strong>Effects on body protein</strong></td>
<td>wasting</td>
<td>increasing deposition and stores</td>
<td>protecting their integrity</td>
</tr>
<tr>
<td><strong>Effects on carbohydrate metabolism</strong></td>
<td>increase liver glucose output; increase glycemia; glycogen wasting</td>
<td>limited lipid storage</td>
<td>decrease lipid storage; protection of lipids from oxidation</td>
</tr>
<tr>
<td><strong>Effects on lipid metabolism</strong></td>
<td>increased overall lipogenesis from glucose and amino acids; enhanced lipid storage</td>
<td>increase thermogenesis</td>
<td>increase thermogenesis; precursors of postulated ponderostat signal</td>
</tr>
<tr>
<td><strong>Effects on energy metabolism</strong></td>
<td>favour lipids at the expense of carbohydrates and protein; alter the ponderostat setting</td>
<td>increase thermogenesis</td>
<td></td>
</tr>
<tr>
<td><strong>Effects on mineral deposition in bone</strong></td>
<td>mobilization (up to osteoporosis)</td>
<td>maintenance / retention</td>
<td></td>
</tr>
<tr>
<td><strong>Actions on inflammation</strong></td>
<td>decrease (cytokine inhibition); synergistic effect with estrogens</td>
<td>decrease?</td>
<td>decrease (antioxidant); synergistic effect with glucocorticoids</td>
</tr>
<tr>
<td><strong>Effects on the immune system</strong></td>
<td>depress</td>
<td>enhance (protein/energy availability)</td>
<td></td>
</tr>
<tr>
<td><strong>Effects on insulin</strong></td>
<td>induce insulin resistance</td>
<td>synergistic effects with insulin favouring protein deposition and growth</td>
<td>counteract glucocorticoid effects on insulin</td>
</tr>
<tr>
<td><strong>Effects on steroid hormone synthesis and function</strong></td>
<td>strongly inhibit androgen synthesis and actions; also (less strongly) estrogen action</td>
<td>block some glucocorticoid effects; DHEA is an antiglucocorticoid</td>
<td>decrease androgens (substrate for their synthesis); block some glucocorticoid effects</td>
</tr>
</tbody>
</table>

CBG: corticosteroid-binding globulin; DHEA: dehydroepiandrosterone; SHBG: sex hormone-binding globulin.

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