The inner fire: hormonal control as the basis for efficient bodily function

Dr. med. Wolfgang Rohrer, Klosters, Switzerland

1. General information

Complex systems imply sophisticated control mechanisms. These, in turn, rely on a well-functioning communication system. In short, complex systems cannot function without communication and control!

With other living organisms, the hormones may be named differently but the controlling principles for cell and body function are completely identical.

I would now like to discuss the extremely important role of hormone regulation in the human body.

Standard examples:

Car:	Electronics	–	Signal transmission	–	Engine function
	Engine function	–	Signal transmission	–	Electronics
Humans:	Brain	–	Nerves and hormones	–	Cell function
	Cell function	–	Nerves and hormones	–	Brain

---

2. Hormones, Physiology

Hormones are biological signal mediators and were discovered in the early part of the 20th century. The word comes from the Greek term hormãn meaning to drive forward or stimulate. Chemically, hormones encompass both small molecules and peptides. They are endogenous substances released by endocrine glands into the circulation in order to achieve a specific effect in other organs. Neurohormones are also described as hormones. These are messenger substances which, unlike endocrine glands, are released from body cells in order to transmit signals. They usually work on the cell surfaces where they link to so-called hormone receptors. In a few cases, they only become effective when connecting to intracellular receptors (e.g.: thyroid gland hormones, vitamin D and sex hormones).

Cell-specific enzymes are responsible for hormone function within cells. Minerals such as zinc and copper often provide the catalyst for enzyme function.

This process controls numerous vital processes such as growth, development, reproduction, metabolic activity and behaviour.

Controlling the hormone system is a complex task that is conducted in a strict hierarchical sequence. Hormone concentrations are adjusted to suit requirements mostly via negative feedback mechanisms. In this respect, we refer to so-called hormone control circuits/loops or axes:

Impulses from the various control circuits are transmitted via the autonomous nervous system. Example: reaction to stress.

Hypothalamic-pituitary-gonadotropic axis hormones (the so-called sex hormones) vary in quantity at different periods in our lives.

53rd International Congress for Bicom Therapists, 3rd to 5th May 2013 in Fulda, Germany

The hypothalamic-pituitary-gonadotropic axis:

Gonadotropin-Releasing Hormone (GnRH) – Gonadotropin	**Sex hormones** **Sex organs**

The hypothalamic-pituitary-adrenotropic axis:

Gonadotropin-Releasing Hormone (GnRH) – ACTH	**Cortisol** **Adrenal glands**

The hypothalamic-pituitary-thyreotropic axis:

Thyreotropin-Releasing Hormone (TRH) – Thyreotropin	**Thyroxin/Trijodthyronin** **Thyroid gland**

Water-soluble hormones cannot diffuse through the cell membrane. They therefore bind to specific membrane-associated receptors on the target cells where they form a so-called hormone receptor complex. This activated receptor then triggers intracellular biochemical mechanisms. Example: smooth muscle relaxation.

Lipid-soluble hormones can penetrate cells via the lipophilic cell membrane thanks to their lipid structure. Here the hormone binds to receptors in the cell plasma and forms a hormone protein complex that subsequently acts on DNA-specific genes.

So-called **steroid hormones** represent an important group of lipid-soluble hormones. They can be divided into three categories:

Mineral corticosteroids (aldosterone):	Regulation of the water and electrolyte balance
Glucocorticosteroids (Cortisol):	Metabolism regulators
Sex hormones:	See below

Bicom therapy operates at a control level. It is able to influence hormone production using endocrine organ frequencies. Effective hormone production is always indicative of intact, correctly functioning organs. After all, state-of-the-art cars won't run without fuel in the tank …

3. Sex hormones

3.1 General information

Sex hormones are messenger substances involved in sexual development, shaping sexual characteristics and controlling sexual function.

They generally differ according to gender but there are no gender-specific hormones per se. The difference between genders is due to the fact that the quantity of sex hormones produced and released varies considerably according to gender. This phenomenon plays a role in both young and old.

Although I have differentiated below according to gender, the difference is due to the fact that the number of sex hormones produced and released varies substantially along with their activity within the body.

3.2 Biosynthesis of sex hormones

Sex hormones are derived from cholesterol and are therefore lipid-soluble. Following transport into the cell, the hormone receptor complex binds to the cell nucleus and activates the transcription of specific sections of DNA, thus generating other structural proteins. Steroid hormones can cross the blood brain barrier. Given their lipophilic structure, they are dependent on plasma and specific transport proteins during their passage through the body.

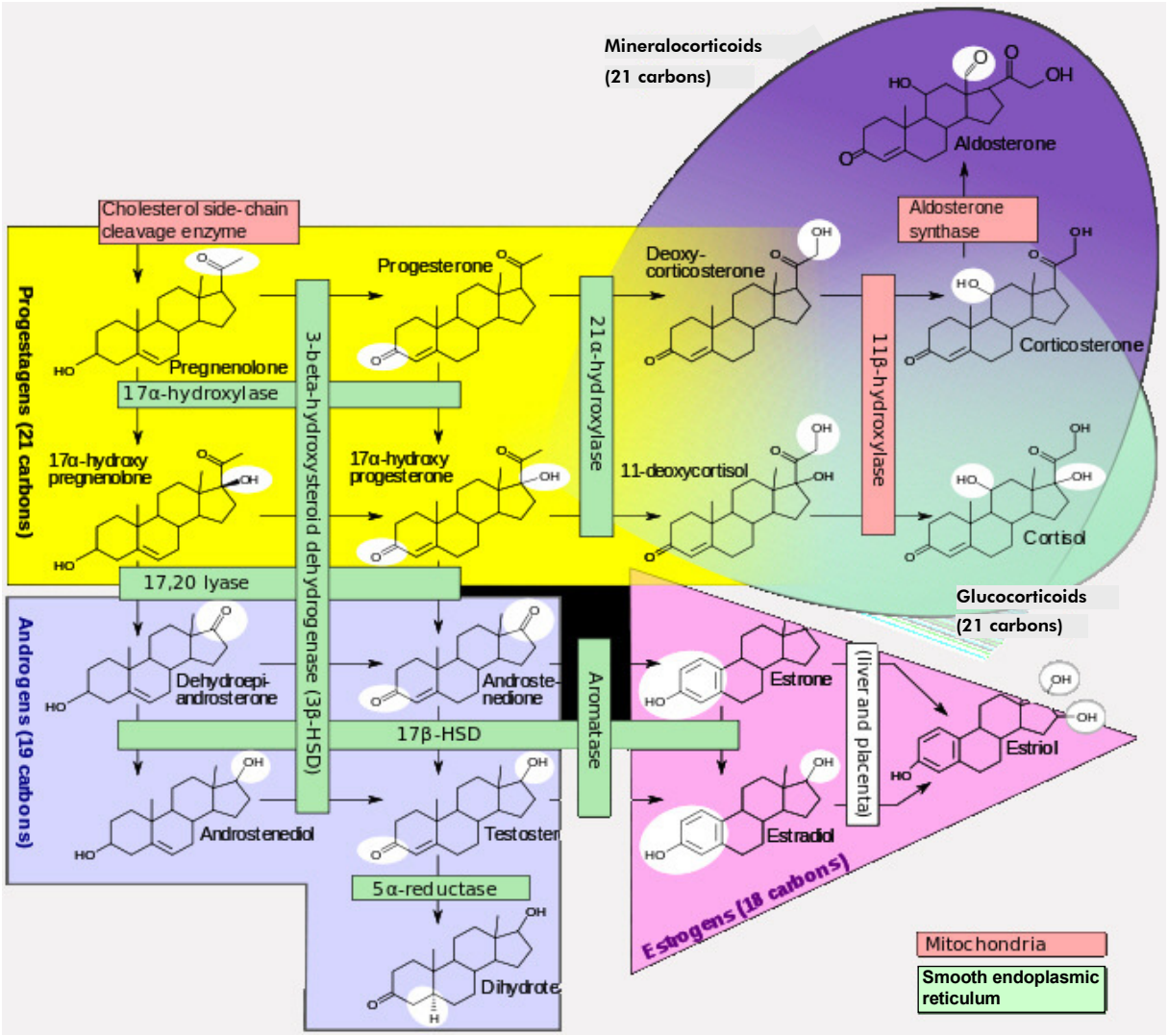

Figure 1: Sex hormone synthesis pathways
(Source: http://de.wikipedia.org, based on the version by D. Richfield and Mikael Häggström)
[Due to poor legibility, original captions are in part overlayd]

As mentioned earlier, serum concentrations are controlled via circuits using so-called negative feedback mechanisms. The hormone remains active for a few hours or days until degradation takes place via the liver.

This mechanism is simplified in the following illustration.

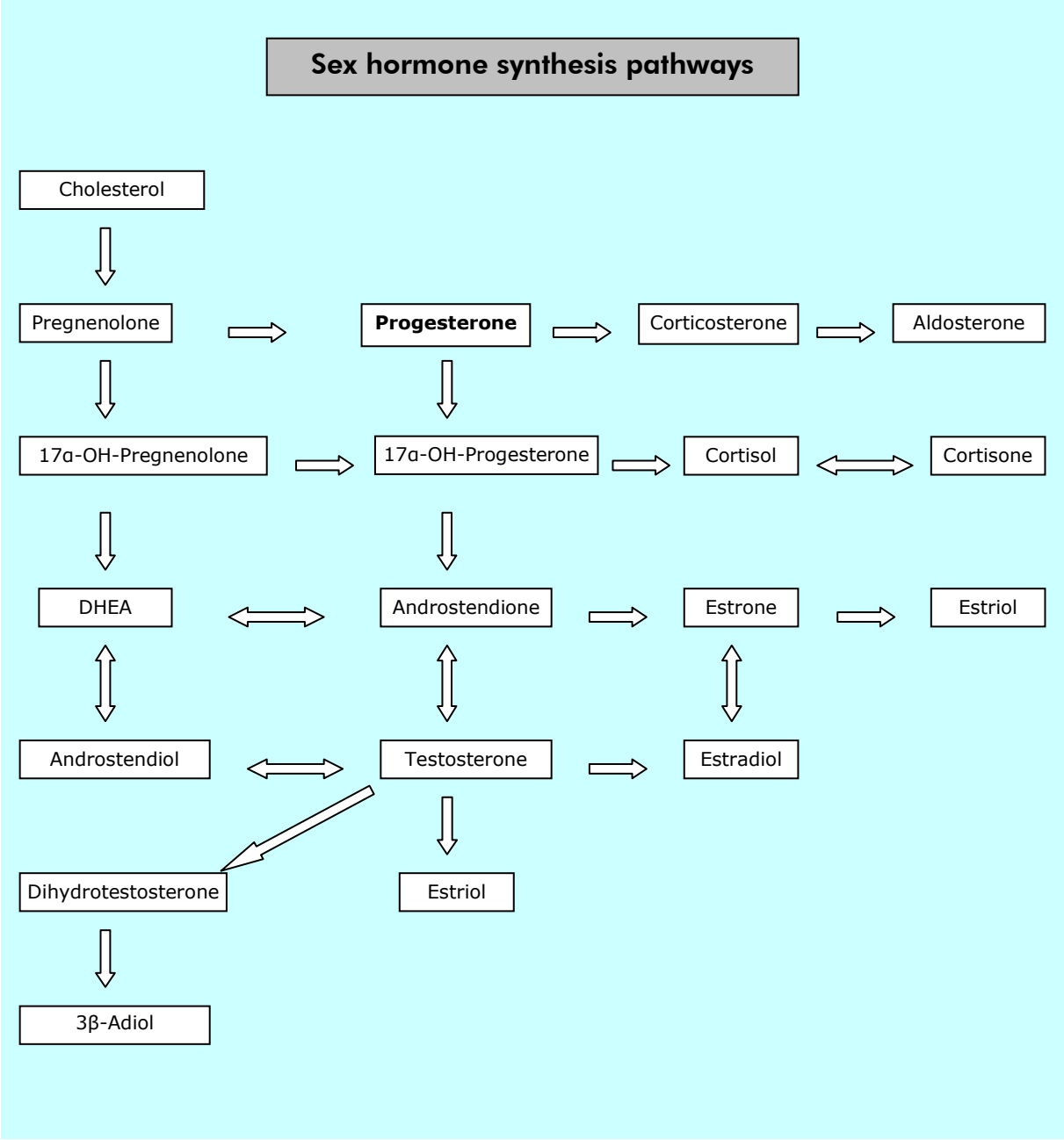

Figure 2: Sex hormone synthesis pathway (simplified illustration)

Vitamin D plays a specific role. It is structurally similar to the sex hormones (benzene ring) and therefore displays hormone-like activity.

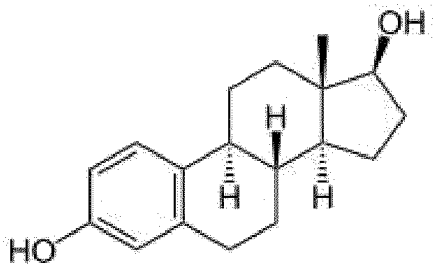

Figure 3: Estradiol

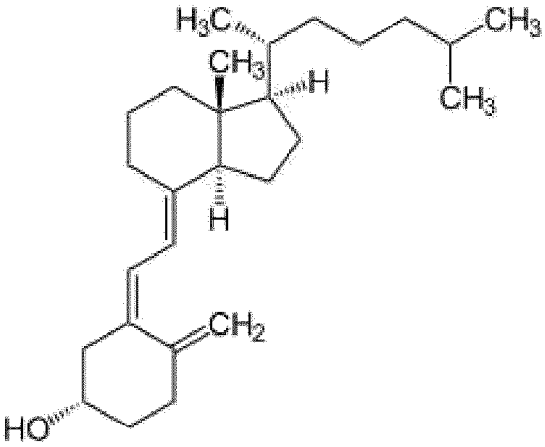

Figure 4: Vitamin D (Cholecalciferol)

Progesterone plays a vital role as the **base material in hormone production**. On the one hand, it acts as a sex hormone, as outlined above, and on the other it controls countless other body functions (including anti-hypertensive and diuretic properties). Obviously, it also plays a particularly important role in controlling immune processes. A high progesterone concentration is inversely proportional to the frequency of a wide variety of auto-immune diseases. Examples: multiple sclerosis, Alzheimer's disease, Parkinson's disease and Crohn's disease.[1, 2, 3, 4, 5, 6]

Experimental studies have also shown that progesterone can play a protective role in treating recent head-brain injury.[7, 8]

Errors or deficits in terms of hormone control can trigger various disorders at any age. The increase in the number of new disorders discovered in recent years is particularly striking. Watchful observers have come to the rightful conclusion that hormonal influences must inevitably be involved.

Xeno-oestrogens is the key word in this context. However, the probable impact of other environmentally toxic factors should not be underestimated.

Hormone deficiency triggers hypercholesterolaemia via feedback mechanisms. This affects older subjects in particular.

3.3 Female sex hormones

A distinction may be made between two main groups: **oestrogens** and **gestagens** (progesterone).

Estradiol and **Estriol** are the main oestrogens. Together with progesterone, they are responsible for regulating the female cycle and pregnancy. They regulate the maturity and growth of the internal female sex organs and the maturity of the secondary female sex characteristics during puberty. They are also responsible for terminating bone growth in both sexes.

Oestrogen and gestagen are formed in the ovaries. Progesterone is also produced in the adrenal cortex and the protective layers of the nervous system, albeit to a minor extent. Testosterone (the male sex hormone) is initially produced in the ovaries and is subsequently converted into estradiol.

Progesterone is mainly responsible for maintaining the endometrium in readiness for a straightforward pregnancy. It also controls the immune processes by attenuating auto-aggressive tendencies (the implanted embryo is not rejected despite the presence of foreign DNA).

3.4 Male sex hormones

The male sex hormones are known as androgens. Testosterone is the main male sex hormone. It is decomposed into the more active dihydrotestosterone via the "5α-Reductase" enzyme. Both hormones are involved in shaping the male phenotype and behaviour patterns.

Progesterone also plays an important role as a base material in androgens. It is formed in the testes, adrenal cortex, glial cells (brain and spinal cord) and Schwann cells in the peripheral nerves.

Elevated dihydrotestosterone levels lead to prostate hyperplasia. Chronic inflammatory changes can often trigger cancer.

Progesterone physiologically inhibits the breakdown of testosterone into dihydrotestosterone. It therefore helps prevents tumours.

4. Bicom therapy options

As Bicom therapy is one that acts at the control level, it requires the presence of hormones in order to function effectively. The periods in life when Bicom therapy is particularly effective can easily be identified:

- Childhood and adolescence
- Adulthood
- The pre-climacteric state (in both sexes) to a certain extent

Bicom can no longer provide adequate relief in cases of marked, organ-induced deficiencies because the organic active substance (in this instance, the hormone), is missing. Physiologically, in the case of sex hormones, this mainly applies in later life. In other cases, deficiencies can also arise due to illness. Example: reduced thyroid gland hormone production following Hashimoto's thyroiditis. In both instances, only replacement therapy will be effective.

The following alphabetically listed therapy programs are particularly suitable for the Bicom treatment of hormonal disorders. Many of these programs deal with actual hormone deficiency whilst others are geared specifically towards the symptoms of hormone deficiency. These programs are listed in a different typeface in the table. They are also placed in brackets to make them more easily identifiable. Programs with three-digit numbers refer to BICOM 2000 programs. They can, however, also be used with the BICOM optima.

These programs are frequently used as follow-up programs within CTT for the treatment of pathogenic information. Of course, substance complexes can also be applied as accompanying measures via the second channel.

However, when treating hormonal disorders in isolation, these programs are selected individually and adjusted to a patient's specific needs. In every case, though, it is worth rounding off therapy by achieving balance via the 5 elements. The use of attenuation ampoules should of course be considered in this context too.

4.1 Therapy programs (BICOM 2000 and BICOM optima)

Program description	Program number
Regulate adrenaline secretion	844
Stress from synthetic materials	979
(Prolapsed bladder	390)
Depression, pharmacogenic, somatogenic, endocrine)	535
Elephantiasis of the legs	610)
(Lack of energy	580)
Heart problems, neurogenic	904)
(Arrhythmias (accompanying)	960)
Hormonal regulation via the foot	980
Regulate pituitary gland	916
Menstrual problems	590
Menstrual problems (PMS)	595, 710
(Night blindness (progesterone deficiency)	524)
Improve noradrostenolone secretion	853
Potency problems	980
(Prostate symptoms	580)
Puberty problems in girls	591
Stimulate release of hormones	851
Improve effect of serotonin	841
Menopausal problems	934

Table 1: Bicom programs to treat hormonal disorders

4.2 Program series (BICOM optima)

Program description	Program number
(Glaucoma (progesterone deficiency)	3006)
(Irritation of the bladder	3018)
Depression, pharmacogenic, somatogenic, endocrinal)	3027
Improving glandular function	3030
Ovarian pain	3034
Lack of energy, debility	3035
Hot flushes	3048
Hormone regulation, gonads	3049
Hormonal disorders	3050
Childlessness	3055
Menstrual pain	3069
Thyroid problems	3087

Table 2: Bicom low deep frequency programs to treat hormonal control

4.3 Individual frequencies (BICOM optima)

Organ/Function	Frequency
	5.9 Hz
	6.3 Hz
	6.4 Hz
	(6.9 Hz ?)
	8.6 Hz
Vitamin D, potency, TW, hormones	10.4 Hz
Ovary	11.3 Hz
Menstruation	17.3 Hz
Kidneys	17.8 Hz
Menstruation	21.0 Hz
Energy control	23.5 Hz

Table 3: Potential individual low deep frequencies to treat hormonal disorders

In every case, the use of suitable substances should be checked using the input cup. I will outline how to select potential substances during the workshop.

The application of output electrodes to suitable acupuncture sites has proved beneficial (in addition to treatment via the magnet mat).

4.4 Substance complexes

(Eyes	Cataract (grey cataracts))
	(Macular degeneration)
Endocrine system	Hormone deficiency ovary
	Hypercorticism
	Hypertestosteronism
	Hyperthyroidism
	Hypoglycaemia
	Hypothyroidism
	Menopausal symptoms
	Suprarenal autoimmune
	Suprarenal weakness
	Neurohormone deficiency male/female
	Oestrogen deficiency
	Ovary testes auto-immune
	Progesterone deficiency
	Testosterone deficiency
	Unstable thyreoidea
	Hashimoto's thyroiditis

"Goodies"	Fortifier for the elderly male
	Fortifier for the elderly female
	Energetic fitmaker
	Energetic fitmaker nerves
	A C E B vitamins + Omega fatty acids
Gynaecology	Amenorrhoea
	Endometriosis
	Hormone deficiency ovary
	Menopausal symptoms
	(Mastopathy)
	(Myoma)
	Oestrogen deficiency
	(Ovarian cysts)
	Progesterone deficiency
	Periods, irregular
	Period pain
	(Infertility)
	Intracyclic menstrual bleeding
(Metabolism	(Hypercholesterolaemia))
	(CO_2 excess)
	(Acidaemia)

Table 4: Substance complexes with the BICOM optima

It is well worth considering the therapeutically sound option of using the tried and tested BICOM optima substance complexes. In the table listing appropriate substance complexes, those suitable for treating the symptoms of hormone deficiency are highlighted in a different typeface and in parentheses.

I hope you will find this information useful when treating hormone disorders.

Thank you for listening.

Literature

1 Inoue T, Akahira JI, Suzuki T, Darnel AD, Kaneko C, Takahashi K et al.: **Progesterone Production and Actions in the Human Central Nervous System and Neurogenic Tumors**. J Clin Endocrinol Metab 2002 Nov; 87(11) 5325-31

2 Weiland NG, Orchinik M.: **Specific subunit mRNA of the GABA receptor are regulated by progesterone in subfields of the hippocampus**. Molecular Brain Research 32(1995) 271-278

3 El-Etr M, Vukusic S, Gignoux L, Durand-Dubief F, Achiti I, Baulieu EE, Confavreux C: **Steroid hormones in multiple sclerosis**. J.Neurol Sci. 2005 Jun. 15; 233(1-2):49-54

4 Milani P, Mondelli M, Binanneschi F, Mazzocchio R, Rossi A.: **Progesterone – new therapy in mild carpal tunnel syndrome? Study design of a randomized clinical trial for local therapy**. J. Bracial Plex Peripher nerve Inj. 2010 Apr 26;5:11.

5 Leonelli E, Bianchi R, Cavalli G, Caruso D, Crippa D, Garcia-Segura LM, Lauria G, Magnaghi V, Roglio I, Melcamgi RC: **Progesterone and its derivatives are neuroprotective agents in experimental diabetic neuropathy: a multimodal analysis**. Neuroscience 2007 Feb 23;144(4): 1293-304. Epub 2006 Dec 20

6 Brinton RB, Thompson RF, Foy MR, Baudry M, Wang J, Fich CE, Morgan TE, Pike CJ, Mack WJ, Stanczyk FZ, Nilsen J: **Progesterone receptors: Form and function in brain**. Frontiers in Neuroendocrinology 29 (2008) 313-339

7 Robin L, Roof, Revital Duvdevani and Donald G. Stein: **Gender influences outcome of brain injury: progesterone plays a protective role**. Brain Research, 607(1993) 333-336

8 Wang J, Jiang C, Li X et al.: **The protective mechanism of progesterone on blood-brain barrier in cerebral ischemia in rats**. Brain Res Bull. 2009 Aug 14;79(6):426-30