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**Question: 1**

Due to pain gate theory Tb pain is reduce , the ice cause vasoconstriction result decrease blood flow to to injured part so the pain mediator don’t reach and due contraction it decrease to edema

Tb synergistic effect is efficient to reduce the pain. It further drugs produce synergetic effects if we give drugs and apply cryotherepy it will increase their therapeutic action

Example:

Anti-inflementery drugs

Steroids (glucocuticoids)

Non-steroids inflementory

Analgestic (NSAID aspirin)

If we give the drugs which produce antagonist’s action so it will reduce to effect of crytotharapy and NSAID drug cause vasodilation.

Example: antagonist may cause local edema

Part:B

Systematic heat increase blood flow to cause healing decrease muscles stiffness heat cause muscles flexibility in dissolves trigger points

**Agents that affect**

Opoids, non opoids

Alpha 1 antagonist

Nitrates, calcium channel blocker

It cause severe hypotention

These agents affect their desires therapeutic response

**Question: 2**

The main function of menstrual cycle is stimulate the ovaries to produce ovum

Prepare the endometrium of uterus for the implantation of ovum

**Phases**

**1 Follicle phases**

Synthesis of follicle,

 Anterior pituitary,

 Signals release of FSH,

 Stimulate follicle,

 Mature ovaries.

FSH release estrogen

Prolifration of uterus lining think

Prollifrative phase

Hormones FSH

**Ovulation**

Mid points 14 days

Anterior Pituitary hormones

LH hormones release large quantities

Follicle Rupture FSH

Release ovum

Travel F-tube

Move towards uterus

LH hormones

**Leutus phase**

Follicle infiltration with lipids

Corpus leuteum

1 week it secrete estrogen, progesterone

Thick uterine lining

Vascularization

Glandular secretion

Endometrium

Estrogen

Progesterone

**B:Termination phase**

If to ovum is not fertilize no implantation and fertilization occur

Corpus leutium

Degrade

No ability to produce LH, FSH

Endometrium breakdown

Leads to bleeding

Reproductive cycle end

Bleeding make ending of one reproduction cycle beginning of other

**Question: 3 part (A)**

When the glucocorticoids is release the effect is on lipid, protein glucose

Protein metabolism occur when act on muscles cells

Increase protein

Amino acid

Acid on lipid, fat breakdown accur

Free faty acid produce

The breakdown of these two increase glucose uplake fatty acid, amino acid in glyconeogenesis it increase glucosynthesis metabolism of glucose inside the liver, produce more glucose, than store into liver glycogen

**Part (B)**

Aldosterone is the principle of mineralacorticoids aldosterone increase the level of angiotensin ll it work in the renin angiotensin system which regulate the blood pressure. When sudden fall in blood pressure the angiotensin cause vasoconstriction of the vessels

Aldosterone facilitate sodium, water retention thus it maintain adequate plasma volume

**Question: 4**

**Diabetic Mellitus**

**Type 1**

Diabetes mellitus

Immunologic destruction of pancreatic beta cell

Immune cell

Destroy the beta cell

Can’t produce insulin

Children

No family history

**Type 2**

With the passage of time and age our body resists to produce insulin

Insulin deficiency

Occur

Family history

**Question 4 part (b)**

The continuous subcutaneous insulin infusion devices is more good because avoid the need for multiple daily injection and provide flexibility in the pattern scheduling activity

It is wearing device which provide a steady stream of insulin in to your body

**Question: 5**

**Ionotophoresis**

Transfer of ion

Drugs molecular transfer to the skin

D.C used

It is a specialized technique through which we transfer the drug into the skin externally by the electrical stimulation

**Electrodes**

It have cathode anode through these electrodes to drug ionize, place them beneath toelectrodes give them specific pathway to transfer into skin and tissue

**How it work:**

The electrodes have two opposite charges when the ionized drugs it applies on the cathode pressure create and the drugs move. The other electrodes enhance drug absorption in to the blood

**Part (B)**

It the time of emergency or biological need signals released to recognize the need

-Inhibition hormones

+release of hormones

Then the hormones goes through blood to the targeted cell then delivery of hormones occur as result modifying to targeted cell activities affects occur and again feedback gives to the biological need. The hormones is degraded