

Pathology 438 - Toxicology
Spring 2015

Group: Krishna Chilka / Kevin Carey
Date: 18 May 2015

Content: (weight= 55 %) Score 9 / 10

Delivery: (weight= 10 %) Score 9 / 10

Timing: (weight= 10 %) Score 10 / 10

References/Bibliography: (weight= 25 %) Score 10 / 10

Notes What are effects of soy on the Body
Soy has amino acid
preservative -
Isoflavone genistein → estrogen effects
RTK inhibitor → apoptosis TGF β ,
Genistein dose-response → Toxicokinetics
Soy allergen
Phytic acid - insect repellent

Questions:

Are genistein levels in experiments likely in natural use

Pathology 438 - Toxicology
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Group: Valeriyova, En & Dobrynsh
Date: 1 Jun 2015

Content: (weight= 55 %) Score 8.5/10

Delivery: (weight= 10 %) Score 8.5/10

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References/Bibliography: (weight= 25 %) Score 8.5/10

Notes

GMO → Roundup resistant
→ crystal protein
Pros of GMO → resistant to spoilage
resist soil — edible vaccines
improved health
Food allergy numbers up during year-by-year —
Toxicokinetics use of glyphosate to try sweet
— Carcinogens

Questions:

Actual effects — in the family —

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Group: Maria Sunny Fabre and Nick
Date: 18 May 2015

Content: (weight= 55%) Score 8 / 10

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References/Bibliography: (weight= 25%) Score 10 / 10

Notes

EBMAD region
Fluorine vs Fluoride - mimics OH^- in bonds to hydroxyl
 Cl^- & F^- why
Other sources: medication skin disease toothpaste
Fluorine supplements
Tea towels chicken magnets resists acid dye
Toxicity / GI tract, Kidney / Turns in HF \rightarrow attacks gastric mucosa
Acute toxicity - eating toothpaste Fluorosis - excessive dosing with Fluoride
Kidney problems - ~~But~~ - Toxicity levels
Reverse osmosis machine

Questions:

Why is F added to H_2O
- actual tap water supplies -

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Group: Jamessa Dyke, Jessica Cherry
Date: 18 May, 2015

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Notes Short & Long Term Effects of Fluoride on Human Body
Most Common Methods of Ingestion

- Bitter taste - Fears of Ca

Ingestion - toothpaste - prescribed amounts of toothpaste

Fluoride toothpaste
limits are in toothpaste levels

25% reduction in tooth decay

Osteoporosis treatment

- 90-95% GI tract - placental
barrier

within
5-10%
milk

1-5 mg/kg
15-30 mg/kg fatal

Questions:

Acute toxicity of toothpaste

CaF₂ - stannous fluoride

Government agencies - how do they respond to FAN

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Group: Mary Whelan / Vincent Cascio
Date: 18 May 2015

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Notes

Are There Detectable levels of Glyphosate found in food
& What levels of Glyphosate are Toxic?

- Structure of glyphosate → shikamic acid pathway
toxicity - oxidation phosphorylation
- GMO crops
- Exposure → veg workers / farming people / accidental spills
- 1750 µg/kg allowable threshold
- hard to test:
 - Animal studies - could not find toxic levels
- Suicide studies 85-200 ml drink
- ^{clear} Alternatives: organic farming, weed, vinegar-based herbicides
- glyphosate

Questions:

California use - agricultural areas

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Group: Natolin Amran / Timmer Schulte
Date: 1 Jun 2015

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B: 14:01 - 14:16

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Notes

- Bromide in The Environment
- Compares w/ Iodine - can inhibit thyroid function
- metabolic remedy, sedating
sleep aids, anti-epilepsy
- ~~1975~~ 1975 - toxicity withdrawn

- Drinking water

- methyl bromide - pesticide straw
BVO → citrus drink

Halothane

Carcinogenic - (IARC)

USEPA levels can be carcinogenic
effect on birth

Bromide Dummie Theory 12d half-life
depressant in CNS - iodine metabolism

Bromism - psychiatric, or

dermatoma

Questions:

Is it added or natural

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Group: Starling, Peterson, Shalinsky
Date: 15 May

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Notes

Aspirin structure

Schlagter - ulcers screen candidates for drug

- making fibrinolytics for gut
- gummy soda, soft drinks
- Mann sum = sweet drinks

Phet Asp + MeOH - in GI tract

Tested in cells, tissues

- inhibit neuro transmitter serotonin, catecholamine
- neurotoxic effects? - Punglabin
- MeOH: hand-distilled spirits - small dose $\text{HCOO}^- \rightarrow (\text{HCOO}^-)$
- Asp \rightarrow Gly +

- Sugar is better alternative

- Rat brain no dose

- 40 mg/kg daily

apoptosis - Aspirin

Questions:

- Why would they put in in drug
- Any other toxicity states
- Why didn't they discontinue?

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Notes

- Source in Earth, runoff, industrial activity
Methyl mercury - ethyl Hg less understood
- bioaccumulation
= Hg released as gas from amalgam filling
accumulates in organs
tattoo inks - can remove
High fructose corn syrup \rightarrow Hg a lot in bread
HFCS
- Neurotoxic, affect low enzyme BBB/placental crossing
- thiol Seleno-enzyme lower cancer rate
* Displaces Zn, makes Hg makes membranes fragile
walks to grain faces in
Websites - Calcium

Questions:

- Are these levels of Hg important? detectable vs added
- Hg \rightarrow

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Group: Christina Lonsenthal / Andrew Sheehan
Date: 1 June 2015

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13:11 -

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Notes

Formaldehyde - Skin reactions

Clothing dermatitis HCHO vapors

Do not use flame retardants Nonaphenol ethoxylates NPES

Endocrine disruptors -
lower immune system

Underclothing - Itching dermatitis.

Questions:

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Group: Fatimah Masoodi / Meekun / Kat
Date: 1 June 2015

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Notes

Bisphenol A
Endocrine disruptor estrogen mimic
1960s used in plastics
- Metal can liners
- Dental
- Epoxy resin
| Leach heat + plastic → leakage
leach
10000-100,000 affinity to estradiol
10 nM to 120 d
Sawest concentration 93
Alternatives -

Questions:

Leaching?
Why only 93% of us?

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Group: Sarah Hewitt, Lawrence Jung
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Notes

GMOs - Nutrition / - cross breeding - explanation of GMO process

GMOs not toxic

- longitudinal studies - found not to be toxic

- Bt corn insecticide

Gene VI³ inhibit tumors rats Foudie Rasmussen

less micronutrients, more harmful substances -

Questions:

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Date: 1 June 2015

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Notes

~~Triclosan~~ Triclosan Colgate TOTAL toothpaste
antibacterial found in many products - First Aid

- Alters hormone regulation
may interfere with fetal development
no cancer risk but studies show
endocrine disruption

Triclosan - lipophilic - accumulates

Alternatives - can buy triclosan-free products
- Europe CDE

Questions:

I have an idea
Triclosan is expensive. EPA, FDA.
Sunlight degrades