	Федеральное государственное бюджетное образовательное учреждение высшего образования «Волгоградский государственный медицинский университет» Министерства здравоохранения Российской Федерации Образовательная программа специальности 31.05.01 Лечебное дело (специалитет)	УЧЕБНО-МЕТОДИЧЕСКИЙ КОМПЛЕКС ДИСЦИПЛИНЫ «ГИГИЕНА»

ТЕМА:
« FOOD POISONING PREVENTION (part 1,2)»

Methodical recommendations to the lesson
for students in the specialty 31.05.01 "General Medicine"

г. Волгоград, 2020 г.

The motivational description of the theme.

There exist about 250 diseases which may be caused by consumption of food. The incidence of food poisonings is second highest among these diseases. Thus, in case of the onset of an acute disease manifesting itself as enteritis and enterocolitis, the doctor should, on the one hand, examine the patient for a possibility of food poisoning and, on the other hand, he should examine the patient thoroughly for an infectious disease. It will enable the doctor to confirm the initial diagnosis or to rule it out.

Most food poisonings develop without complications. Patients usually recover in 1-2 days. However, there may be cases of mass food poisonings if preventive measures are not taken by doctors.

The objective: to learn about the classification, origin, pathogenesis, clinical manifestations and prevention of food poisoning; to learn to investigate cases of food poisoning so as to establish the causative factor and take preventive measures.

Students' classroom activities

1. Presentation of students' reports and their discussion.
2. Solving case problems.

Self-study task

1. Food-borne illness: definition, classification.
2. Bacterial food poisoning: its etiology, pathogenesis, clinical presentations, preventive measures.
3. Non-microbiotic food poisoning: etiology, pathogenesis, clinical presentations, preventive measures.
4. Measures to be taken by the doctor in case of food-borne illness (sporadic cases, mass food poisoning).

Plan of students' independent activities

1. Case problem (type1, type 2). The solution of case problems should be reported in writing according the plan:
1. Initial diagnosis (according to the given classification);
2. Management of the patient;
3. The food which caused the food poisoning;
4. Factors which may be responsible for the disease;
5. Measures to be taken to avoid the recurrence of the disease.

Urgent notification of an infectious disease, food poisoning, acute occupational poisoning

1. Diagnosis _____
2. Last name, first name_____
3. Gender: * Male * Female _____
4. Date of birth _____
5. Address:
street _____

town _____
country_____
6. Place of work, study _____
7. Date of the onset of the disease _____
8. Date of the first referral _____
9. Place and date of hospitalization _____
10. Source of infection and possible cause of the disease _____
11. Antiepidemiological measures _____
12. Date and time of notifying the Centre for Sanitary & Epidemiological Control. Name of the person who informed about the case _____
Name of the person who received the information about the case _____
13. Establishment which notified about the disease _____
Registration # _____
14. Date and time of sending the notification _____
Signature _____
15. Date and time of receiving the notification _____
Registration # _____
Signature _____

Reference information

Term descriptions

A FOOD POISONING is an acute, rarely seen chronic disease caused by consumption of food containing great amounts of microbes and toxic substances either of microbial or non-microbial origin.

A TOXICOINFECTION is an acute, quite often mass disease caused by consumption of food containing great amounts of live causative agents.

BACTERIAL TOXICOSIS is an acute disease caused by consumption of food containing toxins accumulated in the living organism as a result of the development of specific agents. The agents can be either revealed in small amounts or not revealed at all.

ALIMENTARY MYCOTOXICOSIS is a chronic disease caused by consumption of foods such as processed beans and corns, containing toxic metabolites produced by some specific forms of microscopic fungi.

General clinical manifestations of food poisoning:

- short latent period;
- acute onset of the disease;
- short period of the development of the disease characterized by the symptoms of general intoxication and gastrointestinal disturbances;
- if the infected foods are eaten by a group of people, there may be cases of mass food poisoning;

Food poisoning is not transmitted from a sick person to a healthy one;

Acute episodes are relieved right after the agent of the disease is eliminated.

Classification of food poisoning

1. Microbial food poisonings.
1.1.Toxicoinfection
1.2.Toxicosis: - mycotoxicosis;
- bacteriotoxicosis
1.3. Microbial food poisonings of mixed origin

2. Non-microbial food poisoning
2.1. Poisoning caused by essentially poisonous food: - food of animal origin;
- food of plant origin
2.2. Poisoning caused by the food which became poisonous under certain circumstances: - food of animal origin;
- food of plant origin.
2.3. Poisoning caused by chemical substances: - food additives;
- salts of heavy metals;
- substances penetrating from package, containers;
- pesticides.
3. Food poisoning of unknown origin.

The incidence of microbial food poisonings is the highest among all food poisoning cases.

Measures taken by the doctor in case of a food poisoning:

1. The doctor should make a diagnosis.
2. The doctor should provide first aid.
3. Medical analyses of blood count, feces analysis, emetic masses and lavage water analysis are required.
4. The doctor should collect samples of foods for lab tests.
5. The sale of contaminated foods should be stopped.
6. The doctor should fill in the admission form and inform the Centre for Sanitary & Epidemiological Control about the case.

Preventive measures against toxicoinfection

1. Preventive measures against contamination of foods by harmful microorganisms.

Veterinary and sanitary control over the slaughter of the cattle and processing of meat.

Sanitary control over technical facilities and public catering (separate product lines for raw materials and cooked foods are necessary).

Control over the health of food handlers. Observation of the rules of personal hygiene.

At-home slaughter of the cattle should not be allowed.

2. Preventive measures against the spread of microorganisms in foods.

Observation of the sanitary rules of primary processing of foods, such as washing, peeling and cleaning, cutting. The time passing from the primary (cold) processing of raw material and convenience foods to the thermal processing should be minimized.

Observation of the sanitary rules of defrosting and soaking salty foods. One should defrost foods at a temperature under 15 – 20 Cº; one should defrost small fish in running water for 2 – 4 hours.

Frequent use of cold at all stages of production and transportation of raw materials, convenience foods and cooked food is advisable.

Raw materials, convenience foods and cooked food should be stored at a low temperature (4 – 8 Cº).

Compliance with the terms of shelf-life for raw and cooked foods.

3. Measures aimed at eliminating microorganisms found on the surface of foods.

Thermal processing of food is advisable. The temperature of cooking meat is to be no less than 80 Cº. Boiling or pasteurization of milk is also recommended.

Chops and steaks should be fried for 5 minutes on each side and then cooked in the oven at a temperature of 220 – 250 Cº for 5 – 8 minutes.

When cooking jellied meat, the cut meat should be boiled in broth.

Preventive measures against botulism (when making home preserves)

1. Foods which are not fit for salting (e.g. mushrooms) should not be preserved. Mushrooms should be salted and pickled when air supply is sufficient.

2. Stale vegetables, fruits or berries should not be used for making home preserves.

3. Foods should be washed properly before making preserves.

4. Salt concentration should be 8 – 10%, sugar concentration – 50-55%, pH – below 4.0.

5. Home preserves should be stored at a temperature below 14^0C.

6. Thermal processing for 10 – 15 minutes is advisable before consuming home preserves.

7. To avoid food poisoning caused by consumption of stale fish, one should eviscerate it, wash it in running water, salt it and store in a cold place for some time before preserving.

8. Gammon and homemade sausages should be boiled before consumption.

Preventive measures against staphylococcal toxicosis

1. To prevent staphylococci from spreading to the surface of foods, one should do the following:

- workers with pustular diseases, acute febrile catarrh as well as staphylococcal carriers should be suspended from work at public catering;
- observe sanitary rules at work;
- do not use milk obtained from cows with mastitis.

2. To create favorable conditions for elimination of staphylococci, that is conditions in which staphylococci will not multiply or produce toxins, one should do the following:

- perform thermal processing of foods;
- store the food at a temperature of 2 – 4 ^{0}C; see Table 1
- observe the terms of shelf-life for perishable foods.

Table 1

Storage time and shelf-life of highly perishable foods in public catering

Item of food	Storage time & shelf-life at a temperature of 4 – 8^{0C} (h)
Packaged meat (0. 4 – 1.5 kg)	36
Minced meat produced by:	
- meat processing plant	48
- public catering unit	6
Chops:	
- prefabricated raw materials	12
- cooked	24
Meat:	
- boiled	24
- fried	48
Cooked sausage (1-2 grade)	48
Milk (flasks, bottles)	36
Sour cream	72
Turnovers with meat	24
Sandwiches with sausage, fish, ham	3
Pies and cakes:	
- with whipped cream	72
- with butter cream	36
- cream made of scald milk	6
Cereals	12
Russian salad and some other salads without oil or mayonnaise	12