Clinical Approach and Management of Food Poisoning

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ABSTRACT

Food poisoning may occur in a group of people or a single person. The symptoms caused by food poisoning are varied from mild to severe or even fatal one such as death. Immunocompromised patients and others such as elderly and children are susceptible for food poisoning. Re-hydration is the main key in the management of food poisoning. Empirical therapy using antibiotics may be considered in high risk patients such as elderly, immunocompromised, diabetes, liver cirrhosis or intestinal hypomotility. Prevention is an important measure in management of food poisoning by keeping the food from contamination, always fresh and maintaining good hygiene.

Key words: food poisoning, food contamination.

INTRODUCTION

Food poisoning is experienced by almost everybody. It can happen to a group of people or a single person. Food poisoning is also one of the reason that make people go to see doctor or seek help to hospital. If food poisoning occurs in a group of people, the source of contaminated food should be identified immediately to prevent more victims. Research and development unit (Health Department of Republic of Indonesia) in 2004 had listed 23 incidences of food poisoning in educational centers in 10 provinces of Indonesia which had caused 1638 victims.1

Food poisoning is actually can affect anyone because it can occur at anytime unexpectedly. In general, there are 3 factors that cause food poisoning. First is the patient factor or immunity, environment factor and food factor or the etiology or bacteria that contaminate the food. Patients who are immunocompromised are susceptible to food poisoning. Children and elderly are group of people who are high risk of food poisoning. Other groups who are also susceptible are those who had chronic illness, unfit condition or irregular food intake.

Food that supposed to be the source of macro and micronutrients can be dangerous if contaminated by bacteria and cause food poisoning. The problem is that sometimes we cannot identify the condition of food before we eat. If the food has changes in form and smell, then obviously we should not eat it.

Food can be contaminated by bacteria, virus or paracytes. The most important thing to be noticed in packaged food is the expired date.

CLINICAL SYMPTOMS OF FOOD POISONING

The symptoms caused by food poisoning are varied from mild to severe or even fatal one such as death. It depends on bacteria that contaminate the food. General symptoms are nausea, vomiting, diarrhea and abdominal colic. Sometimes fever may also occurs. If these symptoms continued, it would cause dehydration and electrolyte imbalance. If food poisoning occurs in patients with chronic illness, dehydration and electrolyte disorders can be fatal for them.

Diarrhea may be accompanied by liquid stool with mucus and blood depends on the cause of food poisoning.

Data from Central Disease Control in United State (US) showed that 76 million of people in US had food poisoning per year and 5000 cases were fatal.2 In Australia, food poisoning occurred in 5.4 million people in a year.4 How about in Indonesia? The condition might be the same or even worse. The problem is that food poisoning is lack of attention and sometimes unreported. The food that is potential to be contaminated are raw food specially meat, egg, sea food and half-cooked or well-cooked food but contaminated by bacteria. These food can be contaminated before they were cooked, in cooking process or packaging process.

The food that had been reported contaminated and cause food poisoning were potato, apple juice, yoghurt, and unpasteurised milk.5
The bacteria that cause food poisoning, incubation period and suggesting contaminated food are listed in table 1.

<table>
<thead>
<tr>
<th>Bacteria</th>
<th>Incubation Period (hours)</th>
<th>Food source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staphylococcus aureus</td>
<td>2-6</td>
<td>Meat that is frozen improperly, milk</td>
</tr>
<tr>
<td>Bacillus cereus</td>
<td>1-5</td>
<td>Fried rice</td>
</tr>
<tr>
<td>Clostridium perfringens</td>
<td>8-22</td>
<td>Beef, poultry meat, beans, and broth</td>
</tr>
<tr>
<td>Vibrio</td>
<td>12-18 (&lt;48)</td>
<td>Shrimps and crab</td>
</tr>
<tr>
<td>Salmonella sp</td>
<td>12-24 (&lt;48)</td>
<td>Egg, Poultry meat half cooked</td>
</tr>
<tr>
<td>Clostridium botulinum</td>
<td>18-36 (&lt;96)</td>
<td>Can dishes</td>
</tr>
</tbody>
</table>

Three main bacteria that cause food poisoning that mentioned by references are as follows: *Campylobacter sp*, *Salmonella sp*, and Shiga toxin from *Escheria coli* O157 (STEC O157). Patients with food poisoning are usually come to hospital complaining of vomiting and diarrhea.6,7

### MANAGEMENT OF FOOD POISONING

Important initial management of food poisoning that happening in house or certain place are adequate hydration. Victim of food poisoning should not have dehydration. The best fluid replacement is electrolyte solution or oralit. If it is not available at home, it can be replaced by solution of salt and sugar. Anti diarrhea or anti vomiting drugs should be used cautiously and in clear indication. However, if patients are not responsive to rehydration, patients should be hospitalized to be re-hydrated by intravenous line.

Empirical therapy with antibiotics may be considered in high risk patients such as elderly, immunocompromised, diabetes, liver cirrhosis or intestinal hypomotility. Antibiotic that has been widely used is ciprofloxacin 500 mg bid for 5 days.2

### PREVENTION OF FOOD CONTAMINATION

Prevention is always better than cure the disease. Information to prevent food contamination should be well-socialized to general community continually.

Some important factors which should be noticed are that food must be well-cooked so that bacteria will be killed during cooking process. The food should have not been preserved to long in room temperature. Measures to prevent pathogen bacterial growth in food are as follows:

1. Cook the food in high temperature so that dangerous bacteria can be killed
2. Prevent cross contamination, for example knife to cut the raw meat and sea food should not be used again to cut cooked food. After all, hygiene of food preparation place should always be maintained.
3. Prevent well-cooked food contaminated with raw meat or seafood.
4. Maintain warm food being warm and cold food being cold. Temperature of warm food is maintained to keep above 65 C and heated to be served at 85 C.
5. Keep the food in the refrigerator at appropriate temperature. If the food is to long being in the room temperature, it is more likely has been contaminated by bacteria and can be dangerous.
6. Not defrost the food in room temperature. Do defrost in the refrigerator, under running water or by microwave.
7. Packaged food or drinks should be placed according to suggestion which is written in the product. For example. Should be placed in temperature of 2-8 C, or must be placed in freezer, or can be placed in room temperature but no direct exposure to sunlight.

### REFERENCES