THE INCIDENCE OF SALMONELLOSIS IN THE BIHOR COUNTY

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Abstract

As a consequence, the quality of a products or of a service is built strictly after precise norms and methodologies. The preoccupation for the quality lead on the international plan to the development of standards and guides for the quality systems that complete the relevant conditions regarding the products and services included in the technical specification. Finally, the quality and safety of the foods is based on the efforts of all those implied in the complex chain that includes in the agricultural production, the processing, the transport and the consumption. According to the European Union and the World Health Organization – the safety of the foods is a responsibility of everyone, beginning with their origin up to the moment when they are on the table. The salmonellosis is an infection with the bacteria named Salmonella. Germs of Salmonella were known to have provoked diseases for over 100 year(2).

Key words: alimentary contamination, salmonellosis

INTRODUCTION

The prophylaxis and control of the food toxic infections include measures of education of those who manipulate the food for the maintenances of the corresponding hygiene in the kitchen, the adequate preparing of the meat, the refrigeration of the food prepared and the prevention of the cross contamination, the pasteurization of the milk, measures of personal hygiene and the reduction of the contamination of the bird carcass in the butchery. Finally the irradiation of the meat and of other foods before the purchase will reduce the contamination(1).

The demands of the clients are sometimes included in the specifications that can't though guarantee themselves the satisfaction with consistency of the market's expectations in case the production technologies, the organizational system of delivery, the sustaining of the product in the exploitation by activities of service, guarantee, modernization, presents deficiencies.

MATERIAL AND METHOD

1 Re enrichment in a respective nutritive setting (peptone water, tamponed)

2. Enriching two liquid selective settings:
   - Rapaport broth vasiliadis with modified soya
   - muller broth – Kauffman tethrationated – novobiocina
3. Isolation and identification
4. Confirmation of identity

Preparing the sample to be analyzed and selective pre enrichment – is made SR EN ISO 8261/2005

Salmonella enkridis – small colonies, bluish reflexes, aspect of allocation of the microbes is made depending on the place where the seeding was made (broth, field, solid setting).

Characters of culture

Enrichment setting: Muller, Kauffmann, (settings with gall , tetrational),broth with selenite of Na.

DD settings of isolation of the pure culture : Endo, Levin, Ploskivre (colonies S, lactose): setting with bismuth sulphate Wilson- Blair (black colonies)

DD settings of accumulation and differentiation: Olkenitki, Kliger (glucose AG, lactose-H S+ urease)

Primary tests: using the citrate of Na, produce H,S MH + LDC+mobilate+ the other tests -negative

Secondary tests: segregates the AG glucides paintless nitindecarboxilasis.

Sampling: faecal matters, vomit matters, blood, gastric irrigations, urine, festering, rests of suspect foods. Methods of diagnosis:

1. Bacteriological test – basic (coproculture, hemoculture, uroculture)
2. RIF- for a fast diagnostic
3. Serodiagnosis - RHA

- Prophylaxis of the salmonellosis – non specific
- Treatment – symptomatic, antibiotics therapy if needed, in severe forms of infections. NTG – horizontal method for the enumeration of the micro organisms by the technique of counting the colonies at 30°Celsius.

The Principle of the method:

Establishing aerobinesofils NTG is performed in the following steps:

-Seeding in depth a defined sample setting, poured in two Petri boxes, with a determined quantity from the sample to be analyzed, if the product is liquid, or with a determined quantity from the initial dilution, in case of other products(3).

-Preparing other Petri boxes in the same conditions, using decimal dilutions from sample to be analyzed, or from the initial dilution.

Incubating the boxes in conditions of aerobiosis , at 30ºCelsius, in Z = 72 hours (3 days).

-The UFC calculation of micro organisms /g or/ml of test, on the basis of the number of colonies obtained in boxes gathered at the levels of dilution that allow the establishing of a significant result.

Preparing the sample to be analyzed. In order to avoid the contamination of the setting and of the sample we use, it is recommended to work in niche. In case of the solid samples, are sampled fragments from different areas, so that the necessaryFrom the point of view of the frequency, but also of the hygiene sanitary implications, the food toxic infections produced by salmonella in most of the countries, is in the first place. They appear frequently in human and animal carriers, the temperature being a favorable factor for the development and multiplication of the germs. The Salmonella type is placed in the Enterobacteriacae. Among the serotypes met in the case of food toxic infections in our country are: S.panama; S.esobony; S.erby; S.brandenburg;S.enteritidis Gartnet; S. Thomson; S.s.bovis morbificans; S.java; S.newport; S. Bredeney; S.meleagridis; S. Infantis; S. Heidelberg; S.anatum; etc(4). Other germs have the form of bars or cocobacilum with dimensions of 2-3/0,6 microns, acapsulogene, asporogene, Gram negative, mobile , with the exception of some immovable mutants and some serotypes (S. galiinarum/pulorum). Are aerobe germs, facultative-anaerobe, are developed well in regular nutritive settings, with surrounding pH of 7,0 at the temperature of 37 degrees. These germs are not multiplied at temperatures smaller than 10 degrees and at an pH smaller than 4,5-5 are destroyed fast by the normal disinfectants.

The main biochemical characteristics of the salmonella are:

* Fermenting of the glucose with gas production;
* Production of hydrogen sulphide;
* Using the citrate as unique source of carbon;
* Doesn't ferment the lactose and sucrose;
* Doesn't produce idol and urease.

Detecting the presence of the salmonella is made by seeding the test in the liquid non selective setting of pre enriching, incubation at 37 degrees, then the seeding in two selective liquid settings of enriching, using the culture from the pre enriching setting, the incubation at 37 degrees and the insulation by seeding in the two settings of enriching on solid selective settings, which after incubation at 37 degrees are controlled for the presence of the colonies suspect of Salmonella and confirmed by identification tests.

RESULTS AND DISSCUSIONS

Hemoculture – 10-15 ml of blood is seeded in 100 ml billiat broth, Rapporart glucose broth setting 1% for the enriching of the salmonellosis.

Is incubated at 37 degrees and in days 1,2,3,5,7 and 10 is replicated on settings DD(Endo, Levin, Ploskiv W- B) for the isolating of the pure culture.
The lactose colonies are replicated on settings Kigler for the accumulation of the pure culture and preliminary identification.

In 2013:

- Sesame sesame Pasta - Salmonella Montevideo and Salmonella Mbandaka
- Alive birds - Salmonella Typhimurium
- Alive birds - Salmonella infantis Salmonella Lille, Salmonella Newport, and Salmonella Mbandaka
- Cucumbers - Salmonella Saintpaul
- Chicken - Salmonella Heidelberg
- Cow beef - Salmonella Typhimurium

CONCLUSIONS

The safety of the food can't become a real fact unless it is a responsibility of all those involved in the food industry, from professionals to consumers. Along the food chain, are implemented different procedures and control mechanisms, that assure us that the food that gets on the table of the consumer is eatable and the risk of contamination is reduced to minimum, so that the population would be healthier following the benefits brought by safe and healthy food. Although the zero risk for food doesn't exist and we have to be conscious that the best legislation and the best control systems can't protect us entirely against those with bad intentions.

The best method we can practice the safety of the food is to be well informed regarding the main principles of the food production and the safe handling at our home.

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