



Isolation and detection of *Escherichia coli* O157:H7 from meat product samples in Bojnord, Iran

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Objective:

E. coli O157:H7 is an important food-borne pathogen and can cause diarrhea, hemorrhagic colitis, and hemolytic uremic syndrome (HUS). The *E. coli* O157:H7 can easily contaminate minced beef, raw milk, poultry products, fresh apple cider, cold sandwich, vegetables and other meat products. However, *E. coli* O157:H7 is considered to be a typical food borne pathogen, because only limited studies were previously conducted on foodstuffs in Iran, the aim of this survey was to evaluate the occurrence of *E. coli* O157:H7 contamination in meat products samples.

Method & Materials:

18 meat product samples including 6 minced meats, 6 hamburgers, 6 raw kebabs were collected from butcheries and supermarkets of Bojnord during summer 2007. 25 g of each sample enriched in mECB & mTSB and then were subcultured on SMAC for isolation procedure. Then M β -glucuronidase activity was detected on TBXA and MUG⁻ colorless colony suspected as *E. coli* O157:H7. Then confirmed by API 20E and *E. coli* O157 antiserum. All *E. coli* suspected isolates were assessed by multiplex's PCR by O157 and H7 primers. STRAIN *E. coli* O15:H7 NTCT 12900 was positive control in all stages.

Results & Conclusion:

Between all SMAC cultures 44.5% were found sorbitol non-fermenting. With TBX agar for evaluation of β -glucuronidase activity (MUG reaction), 72% MUG negative were isolated and these colonies confirmed further by serological and biochemical tests. From this isolates 72% confirmed by API 20E and 83% that subjected to latex test were detected as positive *E. coli*. PCR results were shown 66% H7 positive (non O157) and 13.1% O157 positive. Finally, *E. coli* O157:H7 was detected just in 2(11.11%) of the meat product samples that was related to 1 hamburger (1.66%) and 1 raw kebab (1.66%), but was not detected in any of minced meat samples. In this study evaluation of isolation rate of *E. coli* O157:H7 with two different enrichment medium (mECB & mTSB) was similar for all samples. Our results have demonstrated a very low prevalence of contamination with *E. coli* O157:H7 organisms in meat product samples that could be related to many different factors. These findings, which conformed to the other results of some similar studies in Iran, suggested that other sources of this food borne pathogen may be important in food products and conducting nation wide study is recommended.

Keywords: *Escherichia coli* O157:H7; PCR, meat products; minced meat, hamburger, kebab

Study on prevalence of sarcocystis in prepared kebab in Ahwaz

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Objective:

This study was performed to determine the prevalence of microscopic cysts or bradyzoites of sarcocystis species in raw prepared kebabs in Ahwaz using digestion method and dob smear.

Method & Materials:

100 Samples of raw prepared kebabs were taken by simple random sampling. Tissue smears prepared and stained by Gimsa for detecting bradyzoites. Also, digested samples by pbs containing HCL and pepsin stained by Gimsa and examined microscopically for bradyzoites.

Results & Conclusion:

99 samples (99 percent) in digestion method and 97 (97 percent) in dob smear method were detected to be infected by microscopic cysts or bradyzoites. According to the authors' knowledge in the world the prevalence of Sarcocystis infection in beef is very high. The kebab that examined in this study was prepared from beef. Given high infection rate of prepared kebab with microscopic cyst, the identification of sarcocystis species and their prevalence rate is very important. *Sarcocystis bovi-homanis* causes intestinal sarcocystosis in humans. Avoiding consumption of under cooked kebab is highly recommended.

Keywords: Prepared Kebab, sarcocystis, prevalence, Ahwaz

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