

Gastroenteritis outbreak among attendees of a reconciliation banquet in Riyadh, Saudi Arabia.

On Monday 14 May 2007, 70 persons attended a reconciliation banquet at a house in Riyadh city. The following day, 50 of the attendees started to complain of diarrhea, abdominal pain, fever, nausea, vomiting, chills and headache with some variations in symptoms and severity; 25 sought medical care at emergency departments in different hospitals. This was notified to the on-call center, and an investigation was initiated. The investigating team was comprised of members of the Field Epidemiology Training Program, Ministry of Health and Municipality. A retrospective cohort study was conducted to identify food items and other contributing factors responsible for the outbreak. A structured questionnaire was designed including identification data, consumed food and presenting symptoms. The relative risk, attack rate and the 95% confidence interval (95% C.I.) for each food item and for each restaurant were calculated. The laboratory results of food items, food handlers and of cases were obtained. Data was collected via telephone calls, and were able to contact only 29 of the attendees, of whom 18 were males (62%) and 11 females (38%) (male to female ratio 1.6:1). All were Saudi nationals.

A case was defined as any person who had eaten at the reconciliation banquet on the 14th of May 2007 in Riyadh and developed diarrhea and one or more of the following symptoms (vomiting, abdominal pain and fever) within two days of food consumption. Diarrhea was defined as three or more loose motions per 24 hours. Out of the 29 persons contacted, 18 were defined as cases (62%) and 11 as non-cases (38%). Out of 18 cases, 12 were males (66.7%) with male to female ratio of (2:1). Out of 11 non-cases, there were 6 males (54.5%) with male to female ratio of (1.2:1). The ages ranged between 11-50 years (mean 28.6 years, SD \pm 12.7). The attack rate was higher among males (A.R=66.7) than females (A.R=54.5). Among cases, 100% complained of diarrhea, 88.9% of abdominal pain, 88.9% fever, 77.8% vomiting, 27.8% headache, 22.2% chills and 22.2% nausea.

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There were neither hospital admissions nor deaths among the cases. The time lapsed between food consumption and onset of symptoms ranged between 7 to 23 hours (mean 12.38, \pm SD 4.7 hours).

A line list of food items that all attendees had eaten at the banquet in addition to the time lapsed between food consumption and onset of symptoms are demonstrated in figure 1.

On enquiry, it was found that the restaurant chain which catered the banquet consisted of 8 restaurants and one main center for food preparation. There were 800 people working in this chain. The implicated restaurant was visited and inspected for general sanitation, and food handlers were interviewed and examined for their level of hygiene and presence of health problems. Open-ended questions were asked about different stages of food preparation, storage and delivery. The team inspected the health certificates of food handlers and obtained rectal, nasal, throat and fingernail swabs for laboratory investigations (32 samples), and eight samples (nasal, throat, rectal & fingernails) taken from butchers in the main restaurant. Samples were randomly collected from foods, utensils and refrigerators. Four samples were obtained from utensils in the main food preparation site at the restaurant, in addition to 15 random samples from food items in the suspected restaurant. All samples were sent to the central laboratory of Ministry of Health in Riyadh. The food specific attack rate (A.R), relative risk (R.R) and 95% confidence intervals (95% C.I.) for each food item were calculated (table 1). Um Ali desert had the highest RR 1.93 followed by green salad 1.85.

Regarding laboratory results; 5 cases gave positive results for Salmonella D. Food items, utensils and food handlers gave negative results. The causative organism of this food-borne outbreak was most likely Salmonella D.

– Reported by: Dr. Jaber Sharaheeli, Dr. Mohammed AlMazroua, Dr. Nasser Al-Hamdan (Field Epidemiology Training Program).

Editorial notes: The clinical, laboratory, and epidemiological data point to Salmonella D as the most likely causative organism of this outbreak. The clinical picture including diarrhea and fever is compatible with that of Salmonella.^{1,2} The incubation period variability may be due to differences in inoculation doses, individual susceptibility, and/or incorrect information. Salmonella is the most common causative organism of foodborne outbreaks in Saudi Arabia. Such outbreaks usually arise from contaminated food at its source or during handling by an ill person or carrier.

It is well known that Salmonella multiplies rapidly in optimal circumstances within temperatures that range from 7°C to 46°C.² Regarding the

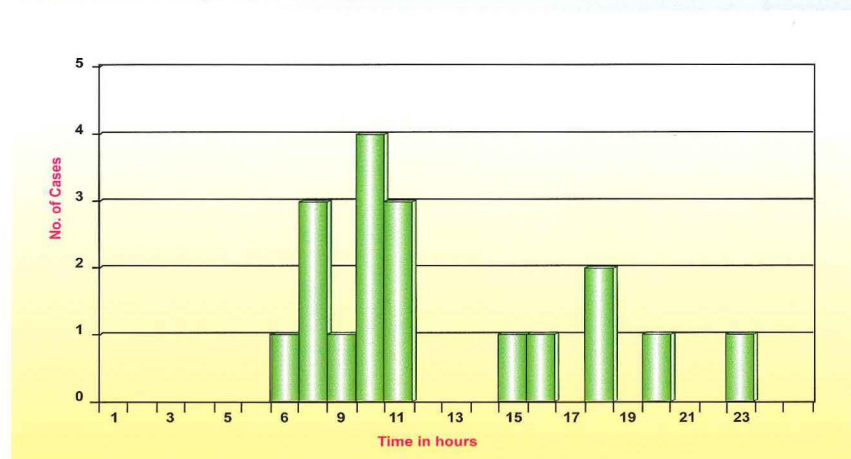
incriminated food items, Um Ali desert is prepared under high temperatures exceeding 75°C for over 12 minutes, under which Salmonella cannot survive.³ Contamination of Um Ali therefore occurred during transportation or at home. The main component of Um Ali desert is milk, which, whether raw or incompletely pasteurized, can cause infection from several pathogens, most commonly Salmonella and campylobacter, but also from E.coli and L. monocytogens, among others.^{4,5} On the other hand, green salad is not exposed to high temperatures, so contamination of the salad may have occurred during preparation, transportation or at home, most probably by cross contamination.

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Table 1: Attack rates, relative risks & 95% Confidence intervals of consumed food items in a reconciliation banquet in Riyadh.

Food items	Eaters		Non-eaters		Relative risk (RR)	CI 95%
	Attack Rate (AR)	III/Total	Attack Rate (AR)	III/Total		
Kabsa	36	5/14	87	13/15	0.41	0.2-0.86
Um ali	84	11/13	43	7/16	1.93	1.06-3.53
Kebab	78	7/9	55	5/5	1.41	0.83-2.4
Kenaffa	75	6/8	57	12/21	1.31	0.76-2.26
Barbecues	85	6/7	55	12/22	1.57	0.97-2.56
Fish	71	5/7	59	13/22	1.2	0.67-2.17
Cream caramel	85	6/7	55	12/22	1.57	0.97-2.56
Cake	80	4/5	58	14/24	1.37	0.79-2.39
Green salad	100	5/5	54	13/24	1.85	1.28-2.67
Tabbolah	80	4/5	58	14/24	1.37	0.79-2.39
Juice	20	1/5	70	17/24	0.28	0.05-1.66

Figure 1. Gastroenteritis cases by Incubation Period after eating in a restaurant in Najran, January 2008.



Impact of Bronchial Asthma Symptoms on the Lifestyle of Asthmatic Saudi Children, Riyadh, Saudi Arabia, 2006.

In February 2007, a number of cases of Bovine Tuberculosis (BTB) were reported among cows in Madinah, Western Region of Saudi Arabia. A committee formed of representatives of Ministries of Agriculture, Health, Municipality, Monetary, and Local Government conducted a large survey of cow farms and raw milk shops all over Madinah. Several control measures were taken, including closing of all raw milk shops, and destruction of whole cow herds in which a case had been discovered. Nine milk samples were examined in November 2007, 2 of which were positive for BTB. Over 100 human contacts of cows were examined (until April 2008), of which 15 were positive for skin test but not for chest X-ray. All human contacts with positive results were started on a full prophylaxis regimen and placed in a regular follow-up plan.

The total number of cow farms was estimated to be around 70 with 3,000 cows. On visiting them, most were found to be poorly structured and lacking even minimal health measures. Their supervisors were non-Saudis (most were Chadians) who practiced selling raw milk to homes after packing it in plastic bags without pasteurization.

There were a total of 27 raw milk shops in Madinah. According to the municipality, they are obliged to have a pasteurization machine as a requirement for obtaining their license. However, most of them used the «water bath» since they did not know the proper way of using the pasteurization machine.

On visiting the TB Hospital, 6 human TB cases who had been admitted for treatment were interviewed, two of whom gave a positive past history of consuming raw cow milk.

A cross-sectional study was conducted to investigate any epidemiological link between this bovine TB outbreak among cows and the registered human TB cases at the TB Hospital in Madinah. The study was conducted among all the registered human TB cases in TB office in Madinah (years 2007 and 2008). The total number of cases in 2007 was 159,

and the number in 2008 (up to April 2008) was 53. Data was collected from patients by telephone or direct interview using a pre-designed questionnaire.

Participants consisted of 66 males (51.2%) and 63 females (48.8%). The majority were below 45 years of age (72.9%). Saudis constituted the majority (51.2%), followed by Chadians (10.9%), Pakistanis (7.7%), Mauritians (6.2%), and other nationalities (24.0%). The vast majority (91.5%) were living in Madinah. The largest proportion was housewives (33.3%), followed by students (22.5%) and jobless (14.7%).

Ninety seven patients (75.2%) had pulmonary TB, and 32 (24.8%) had extra-pulmonary TB. Only 41 (31.8%) gave a history of BCG vaccination, 45 (34.9%) had not taken BCG, and 43 (33.3%) were uncertain.

Among the total study participants, 20 (15.5%) gave a history of close

contact with one or more human cases, and 18 (14.0%) gave a positive history of contact with any type of cattle before illness (figure 1). Among those, 9 patients (50.0%) had been in contact with cattle for a long duration of 20 years, 3 (16.7%) for 30 years, and 2 (11.1%) for 5-years. The vast majority (122; 94.6%) gave a positive history of milk intake, of whom 47 (38.5%) consumed raw milk, while 75 (61.5%) consumed packed pasteurized milk (figure 2). Among the 47 who consumed raw milk, 15 (31.9%) obtained it from their own houses, 12 (25.5%) from vendors, 11 (23.4%) directly from farms, and 11 (23.4%) from milk shops. Regarding history of abnormal symptoms on cattle, 22.2% reported weight loss in their cattle, 16.7% reported chronic cough, and 5.6% reported sudden death of one

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Table 1: Impact of bronchial asthma on lifestyles of asthmatic children and their mothers: (N = 200)

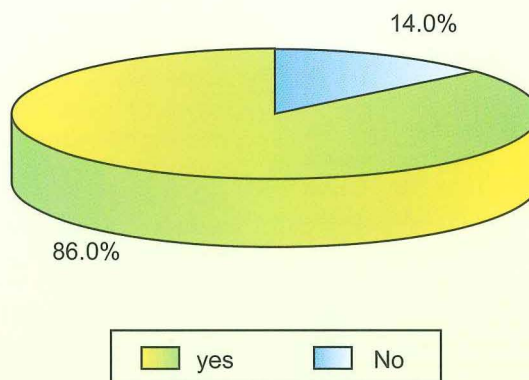
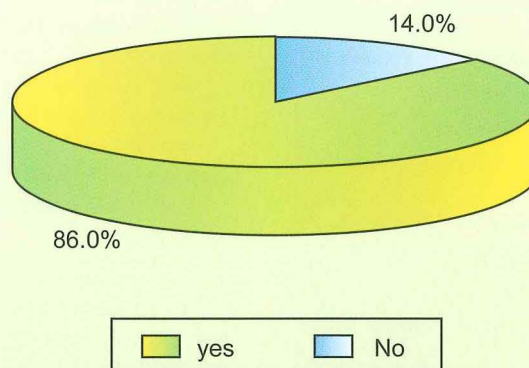


Figure 2: Distribution of study participants according to type of consumed milk, Madinah, 2008 (n=122)



Gastroenteritis outbreak among attendees of a reconciliation banquet in Riyadh, cont...

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The incriminated food item for this outbreak was probably Um Ali. Green salad may have been cross-contaminated. An asymptomatic carrier, most likely within the family hosting the banquet, was most likely the source of the organism. The mode of transmission is probably person to person.

References:

- 1- Chin JA, editor. Control of communicable diseases Manual. 17th edition.
- 2- Tauxe RV, Pavia AT. Salmonellosis: Nontyphoidal. In: Evans AS, Kaslow RA (eds.). Bacterial infection of humans. 3rd ed. New York: Plenum Pub Corp 1998: 613630-.
- 3- Longree K. Quantity Food Sanitation. 5th ed. New York: John Wiley and Sons, 1996:98.
- 4- Potter ME, Kaufmann AF, Blake PA, Feldman RA. Unpasteurized milk: the hazards of a health fetish. JAMA. 1984;252:20482052-.
- 5- Headrick ML, Korangy S, Bean NH, et al. The epidemiology of raw milk-associated foodborne disease outbreaks reported in the United States, 1973 through 1992. Am j public Health. 1998;88:12191221-.

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Was there a link between human TB cases and the Bovine TB outbreak among cows in Madinah, 2007-2008?, cont...

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one or more of his/her cattle.

– Reported by: Dr. Abdul Kareem J. Al-Quwaidhi, Dr. Nasser A. Al-Hamdan (Field Epidemiology Training Program).

Editorial notes: Tuberculosis (TB) is a contagious disease of both animals and humans. It is caused by three types of bacteria that are part of the Mycobacterium group: Mycobacterium bovis, Mycobacterium avium, and Mycobacterium tuberculosis.¹ Bovine TB is caused by *M. bovis*, a gram positive acid-fast bacterium. It is a significant zoonosis which can be transmitted from livestock to humans through aerosols and ingestion of raw milk. It has a very wide host range, where it can infect all warm-blooded vertebrates and humans. Bovine TB is of great economic importance to the livestock industry, due to losses from deaths, chronic disease, and trade restrictions.^{1,2}

The global prevalence of human TB due to *M. bovis* has been estimated at 3.1% of all human TB cases, accounting for 2.1% and 9.4% of pulmonary and extra-pulmonary TB cases, respectively.^{2,3} In developed countries, bovine TB is subject to national control programs which significantly reduced its prevalence. However, wildlife reservoirs make complete eradication difficult in most of these countries. Only a few countries, such as Australia, Denmark, Sweden, Norway, and Finland, are considered to be free of bovine TB.^{2,4} The disease is still common in less developed countries since surveillance and control activities are inadequate or unavailable. In Asia, 94% of human population lives in countries that undergo no control measures of bovine TB.^{2,3}

Links between bovine TB among cows and human TB cases have been reported. In a study conducted in Zambia, it was found that households who reported a TB case within the previous 12 months were approximately 7 times more likely to own herds containing tuberculin-positive cattle (OR = 7.6; p = 0.004).⁵

In Saudi Arabia, the prevalence of bovine TB among the cattle population is low. No significant outbreaks have been reported in the previous years. However,

collaborative inter-sectoral actions were taken to control this outbreak as soon as it was discovered.

In this study, 14% of participants reported contact with cattle for many years before illness, and different activities in dealing with the cattle, such as grazing, feeding, milking, and cleaning. This finding is compatible with the situation in most developing countries, where cattle are an integral part of social life, and where they occupy an important part of housing, especially in rural areas.^{2,3} Another interesting finding is that some participants reported symptoms similar to that of the disease among cattle (eg. weight loss, chronic cough, and sudden death).¹ This may be an additional indicator of a possible link between animal and human disease.

Consumption of raw milk is a major mode of transmission of bovine TB.^{1,2,3} The current low prevalence and incidence of bovine TB in developed countries is mainly attributed to the widespread pasteurization of milk. The majority of cases of bovine TB in those countries are either due to reactivation of old disease or occupational exposure.⁶ In this study, more than 30% of participants gave a history of consuming raw milk before illness. Again, this finding may serve as an important indicator of a possible link. The largest percentage (31.9%) of participants who consumed raw milk was obtaining the milk from their own houses, followed by vendors, farms, and milk shops. This finding raises the importance of including houses in agricultural areas in future plans of surveillance of cattle disease. Furthermore, all farms and milk shops should be regularly checked by the Municipality for health measures. All workers in milk shops should be obligated to use pasteurization machines and should be trained on using them. The Health Department should regularly follow-up workers in shops and farms through tuberculin skin test and chest X-ray.

Bovine TB outbreak among cows in Madinah seemed to be under good control, since all the possible channels of

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Food Borne Outbreak in Najran City, Saudi Arabia, January 2008.

Between the 15th to 17th of January 2008, 92 patients sought medical care at hospitals and primary health care centers in Najran city, complaining of gastrointestinal symptoms: diarrhea, fever, vomiting, nausea, and abdominal pain, after eating from a newly opened restaurant. An epidemiological investigation was started to identify the food item(s) responsible for the outbreak and determine the source of infection.

A case control study was conducted. A case was defined as any person who ate from the restaurant between 142000/1/ to 162008/1/ and developed diarrheal illness within two days of food consumption. A control was defined as any person who ate from the same restaurant within the same time period and had not developed diarrheal illness during the period of the outbreak. A sample of 50 cases and 50 controls were obtained.

All the cases developed diarrhea (100%), fever (92%), abdominal pain (88%), nausea (84%), vomiting 36(72%) and chills (32%). Mayonnaise salad demonstrated the highest attack rate (AR) and Odds Ratio (OR) (AR = 93.8%, OR = 21.0, 95% CI = 2.6 – 166.5, $P < 0.001$), followed by broasted meal (AR = 84.4, OR = 19.5, 95% C.I = 6.9 – 54.4, $P < 0.001$). Among those who had eaten chicken shawarma, 84.6% became sick (OR=6.8, 95% C.I = 1.4 – 32.4, $P < 0.007$).

Salmonella enteritidis group D was isolated from 80% of the patients who consented to give stool or rectal swab specimens. All cultures taken from the restaurant food handlers and food items showed no growth for any pathogens. On inquiry, it was found that Mayonnaise was prepared at the restaurant from blending egg yolk, oil and garlic. This was done by restaurant staff two to three times a week. During the day, most of the prepared mayonnaise was distributed in small containers to be served with the broasted meal and kept not far from the oven. At the end of each day, unused mayonnaise was kept for use on the following day, when it was sometimes mixed with a new batch of mayonnaise.

– Reported by: Dr. Nasser Alfaraj, Dr. Mohammad Al Mazroua (Field Epidemiology Training Program).

Editorial notes: This study is a classical example for a Salmonella food poisoning outbreak, where the clinical, epidemiological, and laboratory data point to Salmonella enteritidis group D as the most likely causative organism.

In the USA, review of results of laboratory-confirmed food poisoning surveillance showed that Salmonellosis was the second cause of food poisoning in 1997.¹ A similar study in Saudi Arabia reviewed all computerized data for foodborne diseases for the years 1411 – 1413 H (1991 – 1993) reported 781 events of food-borne diseases from 18 regions. There were 6,052 cases, of which 3,515 required hospitalization. No deaths due to foodborne disease were reported. The highest rate was reported from Riyadh region, followed by Taif. Food prepared in restaurants accounted for 32% of events. Staphylococcus aureus was the most commonly implicated organism, followed by Salmonella. The most common contributing factors were poor storage, unsafe food sources and inadequate refrigeration.² Another study in the Eastern province reported that Salmonella was the causative organism in 33% of food poisoning outbreaks during the period 1991-1996.³

The most common source of Salmonella food poisoning is poultry, meat, milk, cream and eggs. Investigations of Salmonella outbreaks indicate that its emergence is largely related to consumption of poultry or eggs.⁴

This common source outbreak of Salmonella resulted from restaurant

prepared mayonnaise. The serotype enteritidis suggest that the organism originated in the egg and raw egg product. Heavy contamination probably resulted from temperature abuse of mayonnaise and eggs causing high infectivity.

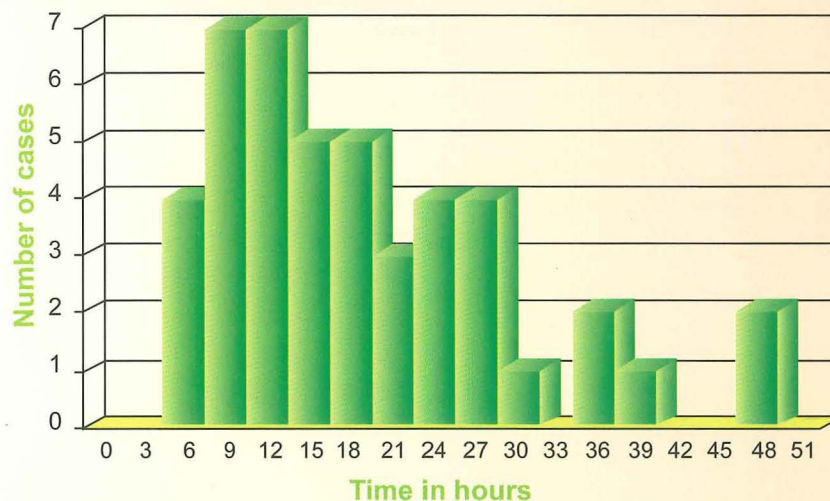
To prevent foodborne outbreaks in general, it is required that food handlers wash their hands thoroughly and frequently, before, during and after handling the food; use clean gloves or utensils while handling food; maintain a sanitary kitchen; thoroughly cook meats; avoid cross contamination between raw and cooked food; protect prepared foods against rodent and insect contamination; reduce time between food handling and service; and maintain proper temperatures of cooked foods.^{2,4,5}

Specific additional measures for prevention of Salmonellosis outbreaks include improved hygienic practices in poultry farms and abattoirs, avoidance of eating raw or cracked eggs, and effective chemotherapy of infected food handlers and discouraging them to handle food while shedding the organism.⁴

It was recommended to prohibit the practice of mayonnaise preparation at restaurants and advocate the use of packed commercial pasteurized mayonnaise instead. Restaurant supplies of raw food should be kept immediately after purchasing in refrigerators. Other concerned Saudi authorities should be involved in order to intensify the supervision of restaurants and food handlers.

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Figure 1. Gastroenteritis cases by Incubation Period after eating in a restaurant in Najran, January 2008.



ملخص باللغة العربية

لجمع المعلومات المطلوبة من المرضى عن طريق الاتصال الهاتفي والمقابلات المباشرة مع المرضى. شملت الدراسة ١٦ مريضاً من التلوث (٥٠,١٢٪) و ١٣ مريضة من الإناث (٤٤,٨٨٪)، و كان (٩٧ مريضاً؛ ٧٥,٠٢٪) يعانون من درن بقري، و ٣٢ مريضاً (٢٤,٨٨٪) كانوا يعانون من درن غير بقري. أما بخصوص التاريخ المرضي السابق بالإحساس بالمشية مع أي نوع من المشية قبل المرض فقد افاد ١٨ (١٤٪) منهم بأنه كان لديهم تاريخ سابق بالإحساس بالمشية، مقارنة ب ١١١ (٨٦٪) لم يكن لديهم إحساس سابق، وقد أوضحت الدراسة أن ٩ مرضى (٥٠٪) من بين أولئك الـ ١٨ الذين كان لديهم إحساس سابق بالمشية بالمشية وصات فترة إحساسهم إلى ٢٠ سنة، ٣ (١٦,٧٪) منهم لفترة ٣٠ سنة، و ٢ (١١,١٪) لفترة ٥ سنوات. أما بخصوص التاريخ السابق للأعراض غير الطبيعية على المشية، فقد افاد ٤ مرضى (٢٢,٢٪) بأنهم لاحظوا فقدان للوزن على ماشيتهم، مقارنة ب ٣ (٦,٦٪) لاحظوا اسعاًلاً مزماً، و ١ (٥,٠٦٪) لاحظ ثوقاً لولاد أو أكثر من ماشيته. كما أوضحت الدراسة بأنه من بين المرضى الـ ١٢٢ الذين أعطوا تاريخاً سابقاً للرب الحبيب قبل المرض، كان ٤٧ مريضاً (٣٨,٥٪) منهم يتناولون الحليب الخام، بينما كان ٧٥ مريضاً (٦١,٥٪) يتناولون الحليب المعبأ المعقم.

و قد خصت الدراسة إلى أنه قد يكون هناك رابط بين فاشية الدرن البقري بين الأبقار بالديرة الملوثة و بين الحالات البشرية المسجلة هناك، و يمثل هذا الرابط بوجود أكثر من ٣٠٪ من المرضى المتشركين الذين أعطوا تاريخاً سابقاً لتناول الحليب الخام، إضافة إلى وجود ١٤٪ منهم أعطوا تاريخاً سابقاً بالإحساس مع المشية لفترة طويلة. إلا أنه لتأكيد وجود ذلك الرابط فإنه يتوجب عمل فحص مخبري (DNA Fingerprinting) للميات البشرية و الحيوانية من أجل تحديد نمط و سلالة بكتيريا الدرن في كل منها، و تمت التوصية بعمل نظام رصد وبائي لمرض الدرن البقري بالتنسيق بين وزارة الصحة و وزارة الزراعة و البلدية، كما أوصى بضرورة تشديد الرقابة الصحية على مزارع المشية و المسالخ و محلات بيع الحليب الخام و الزام المزارع و المحلات باستعمال جهاز يسترة الحليب بعد ترتيب العاملين على الاستخدام الصحيح له.

إعداد: د. عبد الكريم جاسم القويضي، د. ناصر عبد الرحمن الصمان (برنامج الوبائيات الحقلية).

لم يتم التعرف على أي من العوامل التي أدت إلى وقوع الفاشية. لم تظهر أي نتائج مخبرية إيجابية من جميع العينات المأخوذة عدا الخمسة أشخاص الذي تم عزل ميكروب السالونيلا (D) والوجودين بمنزل واحد. إن الاستقصاء الصحي البيئي لم يظهر أي عوامل ساعدت في وقوع هذه الفاشية (عوامل توث - عوامل بقاء - عوامل تكاثر) وقد أتجه فكر المحققين في هذه الفاشية أن التلوث قد يكون حدث بعد خروج الطعام من المطعم.

إن الإصابة بداء السالونيلا ينتشر في المملكة العربية السعودية وتشير إحصاءات برنامج السلامة الغذائية بوزارة الصحة أن ميكروب السالونيلا هو أكثر العزولات في معظم حوادث التسمم الغذائي.

أوصى المحققون في هذه الفاشية بالتركيز على نوعية العامة بخاطر التعامل مع الأطعمة المتبقية من الحفلات وكذلك مراعاة السبل الصحية للنقل والحفظ. مع التأكيد على أهمية عمل الخطوات العلمية الصحيحة عند وقوع حوادث تسمم غذائي وتوضيح للعاملين بمكان إعداد الطعام بالطرق الصحية السليمة لعدم تكرار مثل هذه الحوادث.

إعداد: د. جابر شراحيلي، د. محمد المزروع، د. ناصر الصمان (برنامج الوبائيات الحقلية).

هل هناك رابط بين حالات الدرن البقري و فاشية الدرن البقري بين الأبقار بالديرة الملوثة عامي ٢٠٠٧ - ٢٠٠٨م؟

في شهر فبراير من عام ٢٠٠٧م، تم تسجيل عدد من حالات الدرن البقري بين الأبقار في المديرة الملوثة، و من ثم تم اتخاذ الإجراءات الوقائية اللازمة من أجل السيطرة على الفاشية، حيث تم إغلاق جميع محلات بيع الحليب الخام بالديرة، إضافة إلى إعداد القطعان البقرية التي اكتشف بها حالة مرضية واحدة، و فحص عينات من الحليب الخام و المخالطين للأبقار.

قام فريق من برنامج الوبائيات الحقلية بدراسة مقفعية تهدف إلى استكشاف أي رابط وبائي بين فاشية الدرن البقري بين أبقار المديرة الملوثة و بين حالات الدرن البقري المسجلة في مستشفى الدرن بالديرة الملوثة لعامي ٢٠٠٧ و ٢٠٠٨م، حيث شملت الدراسة ١٢٩ مريضاً مسجلاً، و تم إعداد استبيان خاص باللغة العربية

فاشية نزلة معوية بين حضور وليمة طعام بمدينة الرياض، مايو ٢٠٠٧.

في تاريخ ١٥/٥/٢٠٠٧م تم التبليغ عن إصابة ٥٠ شخصاً أثر تناولهم طعام وليمة عشاء صلح بأحد المنازل في مدينة الرياض يوم الإثنين ١٤/٥/٢٠٠٧م. وقد راجع ٢٥ منهم أقسام الطوارئ في مستشفيات مختلفة. كان عدد المدعوين للوليمة ٧٠ شخصاً وكان مصدر الطعام أحد المطاعم بمدينة الرياض. تم الوصول إلى (٢٩) شخص أصحاء و مرضى هاتقياً وتم عمل استقصاء وبائي وصفي، منحنى وبائي، خريطة نقطية، جدول خصائص الحالات (أب) وكذلك تم عمل دراسة كوهورت إسترجمية.

أظهرت الدراسة أن نوع حلوى أم علي وكذلك السلطة الخضراء هي أكثر أصناف الوليمة ارتباطاً بحوث المرض بعمل خطوة نسبية (٩٣,١) و (٨٥,١) على التوالي. أظهرت النتائج المخبرية إصابة (٥) أشخاص بميكروب السالونيلا (D) وهم يتبعون لعائلة واحدة هي عائلة صاحب الوليمة حيث أوضحت الخريطة النقطية ذلك. بالنسبة للحلوى أم علي لم يتم التعرف على عوامل توث أو عوامل بقاء أو عوامل تكاثر للميكروبات نظراً لوجود خطوة قتل عند درجة حرارة الفون العالية التي ينتهي بها تحضير هذا المنتج.

شركة المطاعم والحلويات المسؤولة عن الوليمة عبارة عن سلسلة مطاعم حوالي (٨) مطاعم يقفهم مركز تحضير وإعداد مركزي وغالباً أصناف هذه السلسلة واحدة. يعمل بهذه المجموعة أكثر من (٨٠٠) عامل ومتناول طعام. سلسلة المطاعم موجودة داخل مدينة الرياض وتقوم بتقديم أكثر من (١٠٠) صنف ما بين فطور وغداء وعشاء وعلى الرغم من ذلك حدثت الفاشية بين متناولي هذه الوليمة فقط ولم يتم التبليغ من أي منشأة صحية داخل مدينة الرياض عن وقوع حالات مرضية من نفس المصدر.

تم أخذ عدد ٣٢ مسحة من عمال الألفية (ألفية حلقية - شرجية - إظافر) من كل عامل. تم أخذ عدد (٤) مسحات من الأواني ومكان إعداد الطعام وتخزينه وذلك من الطعام الرئيسي وازسلت إلى المختبر المركزي لتحليلها. تم أخذ عدد (٨) مسحات (انفية - حلقية - شرجية - إظافر) من عمال الألفية من قسم تجهيز اللحوم بالطبخ المركزي التابع للمطعم. تم أخذ عدد (١٥) عينة من الأطعمة الموجودة في المطعم والتي وجدت في الوليمة وهي عينات عشوائية مختارة بدقة.

Food Borne Outbreak in Najran City, Saudi Arabia, January 2008 cont...

(Continued from page 5)

References:

- 1- CDC. Incidence of foodborne illnesses-FoodNet, 1997. MMWR 1998 Sep 25; 47(37): 7826-.
- 2- Kurdy TS. Foodborne diseases, 14111413-H. Saudi Epidemiol Bull 1994; 1(4): 23-.
- 3- Al-Turki KA, El-Taher AH, Bushait SA. Bacterial Food Poisoning. Saudi Med J 1998; 19: 581584-.
- 4- World Health Organization Press Release. Emerging Foodborne Diseases. Saudi Med J 2002; 23(4): 485487-.
- 5- Al-Mazrou Y. Food poisoning in Saudi Arabia. Potential for prevention? Saudi Med J 2004; 25 (1): 1114-.

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Was there a link between human TB cases and the Bovine TB outbreak among cows, cont...

(Continued from page 4)

transmission to humans were almost blocked. However, this study showed that there may be some possible indicators of an epidemiological link between the outbreak of bovine TB among cows in Madinah and the human TB cases. Those indicators include reporting a long past history of contact with cattle and consuming raw milk. However, these epidemiological indicators do not provide any confirmation of a link. A confirmatory laboratory test is therefore required to specify the strains of the isolated mycobacteria from cows and humans. The new technique of DNA fingerprinting of mycobacteria is the most useful tool to prove any link of disease in the two populations. TB surveillance among humans and all types of cattle in Madinah in the upcoming years is vital to follow the disease trend and evaluate control measures.

References

- 1- Center for Food Security and Public Health. Bovine Tuberculosis [monograph on the internet]. Iowa State: Iowa State University; 2005 [cited 2008 June 29]. Available from: http://www.cfsph.iastate.edu/Factsheets/pdfs/bovine_tuberculosis.pdf
- 2- Cosivi O, Grange JM, Daborn CJ, Raviglione MC, Fujikura T, Cousins

D, et al. Zoonotic Tuberculosis due to Mycobacterium bovis in Developing Countries. Emerg Inf Dis 1998; 4(1):59-70.

- 3- Ayele WY, Neill SD, Zinsstag J, Weiss MG, Pavlik I. Bovine tuberculosis: an old disease but a new threat to Africa. Int J TB and Lung Dis. 2004; 8(8):924937-.
- 4- Smith RMM, Drobniewski F, Gibson A, Montague JDE, Logan MN, Hunt D, et al. Mycobacterium bovis Infection, United Kingdom. Emerg Inf Dis. 2004; 10(3):539541-.
- 5- Cook AJC, Tutchili LM, Buve A, Foster SD, Godfrey P, Pandey GS, et al. Human and bovine tuberculosis in the Monze district of Zambia – a cross-sectional study. Br Vet J. 1996; 152:3746-.
- 6- Cousins DV, Dawson DJ. Tuberculosis due to Mycobacterium bovis in the Australian population: cases recorded during 1970-1994-. Int J TB and Lung Dis. 1999; 3(8):715721-.
- 7- Centers for Disease Control and Prevention (CDC). Human Tuberculosis caused by Mycobacterium bovis – New York City, 2001-2004- [monograph on the internet]. Atlanta: CDC; 2004 [cited 2008 July 12]. Available from: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5424a4.htm>

Selected notifiable diseases by region, Jan — Mar 2008

	Riyadh	Makkah	Jeddah	Madinah	Taif	Qassim	Eastern	Hasa	Hafr Al-batin	Asir	Bisha	Tabuk	Hail	Al-Shamal	Jazan	Najran	Baha	Al-Jouf	Goriat	Gonfuda	TOTAL	
Measles	3	1	1	0	1	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	72
Mumps	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7
Rubella	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Varicella	2711	474	1724	639	361	3033	2235	3469	383	1525	775	1904	415	217	519	519	169	638	62	84	21708	
Meningitis mening.	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Meningitis other	15	2	12	13	3	5	4	6	1	3	1	8	4	2	0	0	0	3	0	0	83	
Hepatitis B	245	5	349	67	14	120	224	6	2	70	15	86	14	65	21	21	4	36	6	12	1377	
Hepatitis C	170	1	327	22	3	53	143	5	0	29	16	22	7	2	9	9	1	19	1	8	840	
Hepatitis unspecified	2	0	16	19	0	0	1	4	0	0	0	2	0	49	0	0	0	0	0	0	93	
Hepatitis A	99	50	128	23	0	15	36	7	8	48	0	40	22	41	34	34	24	2	45	2	647	
Typhoid & paratyphoid	0	0	51	1	0	1	8	8	7	4	5	1	1	0	0	0	0	0	0	0	87	
Amoebic dysentery	14	1	609	13	10	1	102	60	4	31	26	0	0	2	3	3	0	0	0	0	877	
Shigellosis	11	1	7	1	0	0	6	3	1	0	0	0	0	0	16	16	0	0	1	1	48	
Salmonellosis	60	4	39	0	0	3	127	11	2	1	16	0	0	0	15	15	0	0	0	4	282	
Brucellosis	53	14	18	12	36	207	88	6	58	138	62	23	88	30	40	40	0	4	2	4	918	

Comparisons of selected notifiable diseases, Jan - Mar 2007 - 2008

DISEASE	Jan-Mar	Jan-Mar	Change %	Jan-Mar	Jan-Dec	DISEASE	Jan-Mar	Jan-Mar	Change %	Jan-Mar	Jan-Dec
	2008	2007		2008	2007		2008	2007		2008	2007
Cholera	0	0	-100	0	4	Meningitis mening	3	59	-88	7	13
Diphtheria	0	2	-100	0	3	Meningitis other	83	107	-22	83	316
Pertussis	10	2	100	10	68	Hepatitis B	1377	1083	27	1377	4501
Tetanus, neonat	3	5	-50	3	21	Hepatitis C	840	594	41	840	2776
Tetanus, other	1	3	-67	1	6	Hepatitis unspecified	93	488	-81	93	192
Poliomyelitis	0	0	0	0	0	Hepatitis A	647	643	1	647	1383
Guillain Barre Syndrome	23	24	-91	23	93	Amoebic dysentery	87	68	28	87	281
Measles	72	83	-67	72	4648	Amoebic dysentery	877	708	24	877	3645
Mumps	7	26	-55	Mar7	32	Shigellosis	48	51	-6	48	154
Rubella	0	6	100	0	32	Salmonellosis	282	245	15	282	1894
Varicella	21708	12693	60	21708	47691	Brucellosis	918	992	-7	918	4194

Diseases of low frequency, Jan – Mar 2008

Yellow fever, Plaque, Poliomyelitis, Rabies, Haemolytic Uraemic Syndrome: No Cases

Pertussis: 10 Cases (Makkah 4, Qassim 4, Jeddah 1, Asir 1)

Neonatal Tetanus: 3 Cases (Makkah 1, Jeddah 1, Jazan 1)

Ecchinococcosis: 1 Case (Riyadh 1)

Guillain Barre Syndrome: 23 Cases (Riyadh 5, Eastern 5, Jeddah 3, Jazan 3, Makkah 2, Tabuk 2, Assir 1, Hafr Al-Batin 1, Qassim 1)