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النشرة الوبائية السعودية
تصدرها وزارة الصحة
الوكالة المساعدة للطب الوقائي وبرنامج الوبائيات الحقلي
المجلد العاشر - العدد الأول - يناير - مارس ٢٠٠٣

Chemical Poisoning with plant in Skaka, Saudi Arabia, November 2001.

On Tuesday 20/11/2001 (5/9/1422 H), the Preventive Health Department reported poisoning in two children in Skaka, AlJouf, after eating a certain plant. A team from the Field Epidemiology Training Program was sent to investigate these cases. The team met with the Head of the Epidemiology Unit of the Department of Health Affairs of Al Jouf. They visited the Maternity and Children's hospital in Skaka where the two girls had been admitted, visited the family home, and location where the plant grew. Medical history was obtained from the attending physician and the patients' father. Their hospital files were reviewed.

The first case: was a 5 year old Saudi female. She was brought to the hospital around 7:30 p.m. with abnormal gesticulations, facial redness, tachycardia, agitation, and dilated pupils. She had gone outside her home to play with her sister just before Maghrib prayers, and came in a few minutes later with a red face and complaining of headache. She convulsed and lost consciousness for about two minutes. She had some plant leaves in her hand. This plant is popular in the district, and is known to be unhealthy for both humans and animals. Her father took her to hospital after giving her some dates, after which she vomited. She received first aid on arrival to hospital. The child temporarily lost her vision at night, but she recovered completely on the second day.

The second case: was a four year old Saudi girl. She was brought to the hospital with her sister. She had also eaten from the same plant, and had similar symptoms, in addition to mouth dryness. She did not have fever, but had vomited three times. She did not have convulsions, fainting or loss of vision. She also recovered on the second day.

The two cases did not have any relevant medical history. They had both eaten from the same plant. The attending physician was familiar with the plant, which is known to contain an Atropine-like substance, and the two cases were treated as Atropine poisoning. There had been one similar reported case three years earlier, who was a three year old Saudi girl from Skaka, who had eaten this plant on a

(Continued on page 2)

INDEX

Chemical poisoning with plant in Skaka, Saudi Arabia, Shaaban 1422 H, cont ....

(Continued from page 1)

family outing.

The investigating team noticed that this plant grew in abundance in the district. A sample of the plant was sent to the Drugs and Poisons Laboratory in Riyadh, and to the Pharmacognosy Department of the College of Pharmacy, King Saud University, for identification. Its colloquial name was *Egyptian Henbane*, and its scientific name *Hyoseyamus muticus L. (Solanaceae)*. It is a perennial herbal green plant between 30-40 cm. high, and has large green lobated oval leaves with sharp edges. Its flower is white yellow with violet or purple and has a cylindrical shape. Its fruit has a flask shape 1.5 cm. tall and 6 mm wide, containing many brown – black seeds. This plant has been reported from several geographical locations in the Kingdom, especially in the North-Eastern and Northern-Western regions. Its seeds arrive via rains from Jordan where it grows in large areas. All parts of the plant are toxic. Its toxic components are mainly Atropine (Hyoscyamine) and scopolamine (Hyoscine).

– Reported by: Dr. Abdullah M. Al Rabeah, Dr. Ahmed N. Kholedi (Field Epidemiology Training Program).

Editorial notes: The main alkaloids in the Henbane plant; atropine and hyoscine, explains the clinical picture of mixed stimulation and depression of the brain. Serious intoxication may occur in children who ingest berries or seeds of these plants. The deliberate or accidental ingestion of belladonna alkaloids or other classes of drugs with atropinic properties is a major cause of poisonings, especially among infants and young children who are especially susceptible to their toxic effects. The belladonna alkaloids are absorbed rapidly from the gastrointestinal tract. They also enter the circulation when applied locally to mucosal surfaces of the body. Atropine has a half-life of about 2.5 hours, and most of the drug is excreted in the urine within the first 12 hours, in part unchanged. [1]

The most prominent signs of hyoscine poisoning in children are altered state of consciousness and flushed dry skin, severe thirst, dilated pupils, blurred vision, vomiting, increased tendon reflexes, convulsions, involuntary movements, ataxia, hypertension, hyperpyrexia and tachycardia, and occasionally death. In infants and small children moderate doses induce "atropine fever", where the temperature may reach 43° C or higher. [1]

Therapeutic intervention is not necessary except in cases where severe delirium or hyperthermia are present, when intravenous physostigmine and sedatives are given.[1] Cases of toxicity are treated with plenty of water and charcoal as first aid, and inducing the patient to vomit. The temperature is allowed to fall by wrapping the patient with a wet towel.

This plant is used medically in certain countries; in Nigeria, for example, it is used to treat colic and asthma. In Iran, smoke from its seeds is used to treat toothache. The main chemical component of this plant, Hyoscine, is found pharmaceutically under the name Buscopan.

Municipalities should be advised to cut out this plant from residential districts. Educational measures should be undertaken to prevent poisoning of children by eating such plants. Doctors should be educated on adequate treatment of cases, especially in areas where the plant grows.

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Figure 1: Photographs taken of samples of the Sikaran Plant

Foodborne Salmonella Outbreak in Sulyyel, 2002

On October 3rd 2002, many patients with gastroenteritis symptoms presented to Sulyyel hospital, after attending a wedding party. On October 7th, the Field Epidemiology Training Program team was requested to investigate this outbreak. The objectives of this study were to identify the source of the outbreak, to assess its extent and to suggest recommendations for preventing occurrence of similar outbreaks in the future.

The investigating team met with the hospital director and the involved doctors, nurses, health inspectors and some of the party attendees. The emergency room records were reviewed, and admitted patients were interviewed. A preliminary list of patient's names, addresses, telephone numbers and name of treating health facility was obtained and the active surveillance done by the hospital was reviewed. A cohort study was conducted. A case definition was developed which included any individual who developed diarrhea with or without abdominal pain, vomiting and fever within 3 days of eating at the wedding ceremony in Sulyyel city.

To recruit the cohort, initially the groom was requested to provide the list of guests, who had attended the wedding party. As the groom was not cooperative, other patients and attendees were traced through the known patients, their relatives and local notables. Two field work teams were organized composed of one doctor, one health inspector, two female nurses and a driver, each. The attendees were interviewed, face to face, using a structured questionnaire that inquired about demographic data, symptoms of gastroenteritis, date and time of eating dinner, date and time of onset of symptoms, food items eaten, history of hospitalization and any recent history of diarrheal illness. Information on hospital course were obtained from Sulyyel hospital and other health facilities.

Regarding the restaurant food handlers, an open-ended interview was conducted inquiring on the food items prepared, ingredients, preparation techniques, methods of preservation, job description of each food handler and availability of health certificates. They were examined for their level of hygiene, external injuries and skin infections. The restaurant was visited and inspected for general sanitation; including the cleanliness of the food preparation site, food storage area and utensils. Swabs had been already taken randomly from different sites including tables, utensils and refrigerators, by municipality staff. Stool cultures were done for all diarrhea patients, while rectal swabs were taken from the food handlers.

The wedding ceremony was held in an open yard surrounded by houses in the eastern part area of Sulyyel city. The food consisting of rice, meat, salads and sweets was served in two shifts, first at 10 p.m. and then at 2 a.m. Out of approximately 300 persons who had attended the wedding party, a total of 238 were traced and interviewed. Their ages ranged from 2 to 80 years (mean 23.5). Of the interviewed guests 89.1% were Saudis and 47.1% were males. All had eaten at the wedding, 50.4% at 10:00 p.m. (10% were females) and 49.6% at 2:00 a.m. (96.6% were females).

Out of all those interviewed 88 (37%) fulfilled the criteria of case definition. All patients developed diarrhea, other common symptoms were colicky abdominal pain (94.3%), fever (86.4%), vomiting (64.8%), headache (48.9%) and nausea (30.7%). Colicky abdominal pain was the first symptom that appeared in 43.2% of patients, followed by fever in 35.2%, and then diarrhea in 11%.

Patients started experiencing symptoms at 1:00 a.m. on October the 3rd 2002. The incubation period ranged from 3-78 hours (mean=20.6, median=21). The epidemic curve suggested a common point source outbreak. Out of all patients, 88.6% sought medical care, all at Sulyyel hospital. Of those who sought medical care 70.5% were hospitalized. All patients recovered with no complication.

Out of 9 food items and drinks served in the wedding ceremony (Table 1), 3 were significantly associated with illness; meat ranked first (RR=16.7, 95% CI=2.37-115.8), followed by rice (RR=1.95, 95% CI=1.95-93.61) and restaurant made sweets (RR=1.2, 95% CI=1.35-2.58). It was also observed that risk of disease significantly increased with eating at 2:00 a.m. as compared to 10:00 p.m. (RR 2.18, 95% CI= 1.51-3.15), and use of food remnants (RR 4.81, 95% CI 3.54 – 6.53). The attack rates

(Continued on page 7)

Table 1: Relative Risks of Food Items presented at the wedding ceremony in Sulyyel

Food Item	Ate		Did not eat		Relative Risk	95% CI
	Total	Attack rate (%)	Total	Attack rate (%)		
Meat	200	43.5	38	2.6	16.7	2.37-115.8
Rice	206	42.2	32	3.1	13.6	1.95-93.61
Res. Sweet	88	52.3	150	28	1.9	1.35-2.58
Home Sweet	30	43.3	208	36.1	1.2	0.77-1.88
Soft Drink	92	35.9	146	37.7	0.95	0.68-1034
Coffee	80	18.7	158	46.2	0.4	0.25-0.66
Tea	79	15.2	159	47.8	0.3	0.18-0.55

Smallpox: A Review of Clinical Disease and Vaccination

Smallpox is caused by variola, a DNA virus and a member of the genus Orthopoxvirus. Humans are its only known host.[1] It spreads from person to person through infective droplets or aerosols released from the oropharynx of infected individuals and by close direct contact, and can also be spread through contaminated clothing or bedding.[2] In the smallpox era, occurrence of the disease was highest in winter and early spring.[1]

Smallpox exists in two clinical forms: variola major and variola minor. Variola major is the severe form, which is highly fatal. Variola minor is a mild form and is associated with fewer symptoms and a sparser rash. These viral strains are immunologically identical and can only be differentiated clinically. Currently, no clinically proven treatment exists for smallpox.[3]

Smallpox infection occurs after the virus implants in the oropharyngeal or respiratory mucosa.[1] Symptoms begin 12-14 days after exposure (range 7-17 days), allowing the virus to replicate in regional lymph nodes and spread systemically, causing a widespread viremia.[2] After this incubation period, patients experience a pre-eruptive stage that lasts for 2-3 days and is characterized by high fever (>40 °C), malaise, and prostration with severe headache and backache. This is followed by the eruptive stage, characterized by the appearance of a maculopapular rash that progresses to papules 1-2 days later; vesicles appear on the 4th or 5th day; pustules appear by the 7th day; and scab lesions appear on the 14th day. The rash appears first on the oral mucosa, face, and forearms, and then spreads to the trunk and legs. Lesions may also be present on the palms or soles. These lesions are deeply embedded in the dermis and feel like firm round objects embedded in the skin. As the lesions heal, the scabs separate and pitted scarring gradually develops.[2,3]

Smallpox virus can be transmitted once mucosal lesions appear. The viral-laden mucosal lesions precede the characteristic skin rash by about one day. Patients with smallpox are most infectious once the rash appears because live virus is shed from the lesions, and during the first week of the rash when the oral mucosal lesions ulcerate and release substantial amounts of virus into the saliva. They are no longer infectious once all scabs have separated.[2] Except for the skin and mucous membranes, other organ systems are rarely involved. Secondary bacterial infections are uncommon. Death from smallpox usually occurs during the second week of the illness and most likely results from hypotension and toxemia. The mortality rate for smallpox is approximately 30%. A case-fatality rate of 30% was observed during smallpox epidemics in Asia. Fatality rates are higher among unvaccinated individuals.[2]

Before the introduction of smallpox vaccination, nearly everyone in the world contracted the disease.[1] The last case of endemic smallpox was reported in Somalia in 1977, and global eradication of the disease was declared in 1980. In the United States, routine smallpox vaccination ended in 1972.[4] Smallpox, however, remains a potential agent for bioterrorism, and is classified as a "category A" biological weapon because it is easily transmittable, has a high mortality rate, would likely cause panic and social disruption, and requires special action for public health preparedness.[5] If used as a biological weapon, Smallpox has the potential to cause widespread disease and death and could devastate a city or region. The number of cases could be quite high and significant resources will be necessary to halt an outbreak.[5] Unvaccinated individuals are the most vulnerable targets. Also, it is uncertain whether previously vaccinated individuals maintain their immunity. Historically, vaccinated persons had a case-fatality rate of 7% a decade after vaccination and 11% two decades after vaccination, indicating a waning of protection and increasing the number of potentially susceptible individuals.[3]

All known remaining isolates of smallpox virus are stored at the Centers for Disease Control and Prevention (CDC) in Atlanta, USA, and at a repository near Koltsovo in Russia. However, the existence of other samples cannot be ruled out. From the 1970s until the early 1990s, the former Soviet Union produced large amounts of smallpox, anthrax, and other agents of mass destruction. It is postulated that some of these samples may have been sold to various governments and potential bioterrorists.

The most effective method against smallpox and for preventing epidemic progression is vaccination. The smallpox vaccine is a live vaccinia virus preparation that is administered by scarification with a bifurcated needle on the deltoid muscle or the posterior aspect of the arm over the triceps muscle.[2,3] Formation of a hard, pock-like vesicle within 7-9 days at the vaccination site is the indicator of successful vaccination.[2] Formation of the vesicle may be accompanied by several transient adverse effects, most of which begin 7-12 days after vaccination and include redness and pain at the vaccination site, fever, headache, fatigue, muscle aches, chills, nausea, and rash distal to the vaccination site (usually the chest or back),[2,3] in addition to general swelling and tenderness of regional lymph nodes. However, the efficacy of the vaccine has not been measured in clinical trials, and data regarding duration of immunity are limited.[2] Interestingly, the origin of vaccinia virus is uncertain. It has been suggested that it is a result of mixing cowpox virus and another orthopox-virus during early immunization efforts.[1] The vaccine does not contain variola virus, but the immune response to the vaccinia virus induces a protective response to both variola virus and other orthopoxviruses.

Smallpox vaccination is, however, associated with moderate to severe complications. While complications are rare, they occur 10 times more often among primary vaccinees and are more frequent among infants than children and adults. Those at the highest risk for complications from immunization are also at the highest risk for morbidity and mortality from smallpox.[2,6] High-risk groups for whom routine vaccination is not recommended include people with eczema or exfoliative skin conditions; those with leukemia or lymphoma; those receiving chemotherapy with alkylating agents, antimetabolites, or high-dose corticosteroids; people infected

Smallpox: A Review of Clinical Disease and Vaccination

(Continued from page 4)

with HIV or with hereditary immune disorders; solid organ transplant patients; and pregnant women.[2]

The most frequent complication of smallpox vaccination is inadvertent inoculation, usually autoinoculation, which accounts for about 50% of all complications, whereby an individual may touch the vaccination site and then touch the face, eyelid, nose, mouth, genitalia, or rectum and spread the virus to these sites, causing lesions to form. The lesions are usually self-limiting.[2] Generalized vaccinia, is an eruption of lesions usually occurring 6-9 days after vaccination and results from blood-borne dissemination of the virus.[6] The rash is usually self-limiting, but individuals with severe dissemination or are immunocompromised require therapy to help minimize the severity of symptoms, which could result in death. Eczema vaccinatum is another complication which generally affects vaccinees and unvaccinated contacts with either active or healed eczema or other exfoliative skin disorders, whereby the virus spreads to most or all eczematous areas. Progressive vaccinia is characterized by necrosis of the vaccination area and distal sites, including bones and viscera. This often fatal complication primarily occurs in immunocompromised individuals.[2,6] Another serious complication is postvaccinial encephalitis, which occurs at a rate of one case per 300,000 vaccinations and has only been observed among primary vaccinees.[2] Because of complications resulting from the smallpox vaccine, the decision to stop universal vaccination was made in 1972, even before global eradication of the disease.[4] Vaccinia Immune Globulin (VIG) is the only treatment option for complications of vaccinia vaccination, but it is not used for the treatment of smallpox.[2]

Until recently, only 15.4 million doses of smallpox vaccine (Dryvax, produced 20 years ago by Wyeth Laboratories) were available in the United States. Researchers have explored the option of diluting the current stockpile of Dryvax should the immediate need for mass vaccination arise. Efforts for vaccine production are now focused on a live cell-culture-derived vaccinia virus vaccine. Vaccinia vaccine is only available under investigational new drug protocols. Therefore, informed consent and documentation are required for its use in humans.[2]

The Advisory Committee on Immunization Practices (ACIP) recommends vaccinating only limited populations, including laboratory workers who work with cultures of the virus or with animals contaminated or infected with non-highly attenuated vaccinia strains. Health care workers who may come in contact with contaminated materials should also be vaccinated. These populations should receive booster doses every 10 years to ensure continued immunity. Widespread vaccination would be indicated under epidemic circumstances, occurring only from a laboratory accident or an act of bioterrorism.[2,5] Recently, the ACIP recommended that all acute care hospitals establish smallpox health care teams to facilitate investigating and responding to initial cases should the need arise. Although vaccination of the public is not currently recommended, those seeking vaccination may be accommodated by offering them an unlicensed vaccine this year or a licensed vaccine in 2004.[7]

Because the development of new vaccines is directed toward cell-derived formulations, currently known complications and fatality rates may not apply to new smallpox vaccines. This will not be known until the new vaccine is administered and studied either in clinical or epidemiologic trials. The population for whom immunization is contraindicated will be much larger than when the vaccine was first routinely administered. The frequency of cancer, immunosuppression for solid organ transplantation and other diseases, HIV/AIDS, and skin conditions is higher today than it was in the middle of the 20th century, and these patients are most likely to experience complications. Thus, although a new vaccine may be associated with fewer complications, far more people could potentially experience vaccine-related complications. It is estimated that 1 death will result from vaccination in every 1 million primary vaccinees.[2] In the U.S. it is estimated that if 50% of the population is exposed to smallpox as a result of a bioterrorist attack, approximately 5% of unvaccinated individuals and 3% of those with partial immunity (vaccinated before 1972) will die from smallpox or its complications. This conservative estimate translates into 100,000-1 million deaths whereas preemptive vaccination would likely result in about 200 deaths.[7]

– Adapted from: Jennifer M. Lofquist, Nicole A. Weimert, Mary S. Hayney. Smallpox: A Review of Clinical Disease and Vaccination. Am J Health Syst Pharm 60(8):749-756, 2003.

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ملخص باللغة العربية

تقرير طبي عن حالات تسمم كيميائي بنبات عشبي سكاكا، الجوف، شعبان ١٤٢٢هـ.

في يوم الثلاثاء الموافق ١٤٢٢/٩/٥هـ أبلغت إدارة الصحة الوقائية عن حدوث حالات تسمم لطلفتين في سكاكا نتيجة الأكل من نبات عشبي. تم تكليف فريق من برنامج الوبائيات الحقلي لعمل إستقصاء وبائي وتم توجه الفريق إلى محافظة سكاكا حيث قابلوا مدير الاستقصاء الوبائي في مديرية الشئون الصحية بالجوف. وتمت زيارة المستشفى الذي أدخلت فيه المريضتين ومقابلة الفريق الطبي ومراجعة ملفاتهن الطبية، و مقابلة الطفلتين ووالدهما. تمت زيارة منزل العائلة والتعرف على مكان النبتة مصدر التسمم.

الحالة الأولى طفلة عمرها ٥ سنوات، سعودية الجنسية تم إحضارها إلى المستشفى في يوم ١٤٢٢/٨/٢٥هـ بعد المغرب وكانت تصدر حركات غير مألوفة و يظهر عليها حمرة في الوجه وسرعة في ضربات القلب وهيجان عصبي وتوسع في حدقة العين. و أفاد والدها بأنها خرجت مع أختها للعب قبل آذان المغرب ثم جاءت بعد ذلك بدقائق وكان في وجهها إحمرار وشكت من صداع وتشنجت وأغمى عليها لمدة لا تتجاوز الدقيقتين ولاحظ الأب أن الطفلة في يدها بعض أوراق شجرة معروفة لديهم انها تضر الإنسان والحيوان، وأخذها وأختها إلى المستشفى. حيث أجريت لها الإسعافات الأولية. كما لاحظت والدتها أنها في تلك الليلة فقدت بصرها لوقت قصير. و قد تحسنت تماماً في اليوم التالي وغادرت المستشفى على مسئولية والدها إذ كان الطبيب المعالج بالمستشفى يفضل بقاءها تحت الملاحظة فترة أطول.

أما الحالة الثانية فعمرها أربع سنوات، أخت الحالة الأولى، تم إحضارها للمستشفى في نفس اليوم والساعة ، إذ أنها أيضاً أكلت من تلك النبتة و كانت تعاني من حمرة في الوجه وتصدر حركات غير مألوفة، اضافة الى توسع في حدقة العينين وجفاف في الحلق وزيادة في معدل ضربات القلب وتهيج في الجهاز العصبي، و تلقت الإسعافات اللازمة في المستشفى. و أفاد والدها بأنها خرجت مع أختها قبل آذان المغرب وعادت بعدها بدقائق في حالة تهيج عصبي ونفور ممن يقترب منها . ولم يحدث لها تشنج أو يغمى عليها ولم يلاحظ عليها فقدان البصر. وقد أدخلت المستشفى للعلاج وخرجت في اليوم التالي. لم يكن للحالتين أي تاريخ مرضي يذكر، كان حملهم وولادتهم طبيعية كما لم يكن هنالك أي تاريخ مرضي عائلي يذكر وكلتاهما أكلتا من تلك النبتة. عالج الطبيب الطفلتين كحالتي تسمم كيميائي بمادة الأتروبين إذ كانت هذه النبتة معروفة بالمنطقة لبعض الأطباء بأنها تحتوي على مادة الأتروبين.

قام الفريق بزيارة مكان تواجد النبتة التي تنتشر بشكل كبير بالقرب من المنازل والطرقات. تم أخذ نبتة كعينة لإرسالها لمختبرات الأدوية والسموم بالرياض و الى قسم العقاقير بكلية الصيدلة. و قد أفاد أهل المنطقة بمعرفتهم أنها ضارة حيث أن الجمال إذا أكلتها، وهي لا تأكلها إلا إذا كانت جائعة جداً، يحصل لها نفور وكان الناس سابقاً يأكلون الجراد و كان الشخص الذي يأكل من الجراد الذي أكل من هذه النبتة يشعر بتعب وهلوسه وهذيان.

تبين من التحليل ان اسم النبتة السكران المصري (السكره، السكران) من الفصيلة الباذنجانية، و هي عبارة عن نبات عشبي معمر، جميع أجزاء النبات سامة، وتحتوي الأعناق على كمية كبيرة من القلويدات أكثر من نصل الورقة والساق. المكونات السامة قلويدات من مجموعة التروبان أهمها الهيوسيامين Hyoscyamine وقليل من الهيوسينHyoscine . أعراض التسمم ظمأ شديد واحمرار في الجلد وارتفاع في درجة الحرارة وجفاف في الأغشية المخاطية وسرعة في النبض واتساع في حدقة العين. وفي حالات التسمم الشديدة يصاب المريض بتشنجات وإغماء قد يؤدي إلى الوفاة. و هو يوجد كمستحضر صيدلاني في الأسواق المحلية تحت مسمى Buscopan.

تمت التوصية على مخاطبة البلديات لتعريف عمال النظافة في البلديات بهذه النبتة لقطعها وإزالتها من الأحياء السكنية وأماكن التنزه العامة. و التنسيق مع صحة البيئة والكليات العلمية المتخصصة والبلديات للتوصل للسبل العلمية الأفضل للقضاء على هذه النبتة في المناطق السكنية.

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إصابة المدعوين إلى وليمة عرس بفاشية تسمم غذائي بمدينة السليل

في يوم الخميس ٢٦ رجب ١٤٢٣ بدأت تتوافد على مستشفى السليل حالات لمغص مصحوبة بإسهال وارتفاع في درجة الحرارة لأشخاص كانوا ضمن مدعوين لوليمة عرس أقيمت في مدينة السليل يوم الأربعاء ٢٥ رجب ١٤٢٣. توجه فريق من برنامج الوبائيات الحقلي إلى مدينة السليل لإجراء دراسة وبائية لتحديد مسببات التسمم الغذائي و مدى انتشار الحالات وحجم المشكلة.

تم اجراء دراسة كتائبية متابعة و تم جمع المعلومات الضرورية على مدى خمسة أيام حيث قام الفريق بمقابلة المدعوين و زيارة المطاعم التي وفرت الطعام و مقابلة الذين أعدوا الطعام و مراجعة سجلات الحالات بالمستشفى. وقد عرفت الحالة المصابة بأي شخص تناول طعام الوليمة الساعة العاشرة من مساء يوم الأربعاء ٢٥ رجب أو الساعة الثانية من صباح يوم الخميس ٢٦ رجب، و أصيب بإسهال مصحوبا أو غير مصحوب بقيء أو بمغص أو بحرارة. شارك في الدراسة ٢٨٣ شخص كلهم حضروا الحفل. و قد تم تقديم الطعام مرتين الأولى الساعة العاشرة من مساء يوم الأربعاء و الثانية الساعة الثانية من صباح يوم الخميس. راجع ٧٨ (٨٨,٦%) شخص من المصابين أحد المرافق الصحية و نوم ٥٥ (٧٠,٥%) منهم في مستشفى السليل و تلقى جميعهم العلاج ولم تسجل أي حالة وفاة. بدأت أعراض التسمم بالظهور بعد ٣ ساعات و بلغ متوسط مدة حضانة المرض ٢٠ ساعة. أصيب جميع المرضى بالإسهال و المغص(٩٤,٣%)، ثم ارتفاع درجة الحرارة (٨٦,٤%) ثم القيء (٦٤,٨%). بلغ عدد الذين تناولوا الطعام ٢٣٨، منهم ١٢٦ (٥٢,٩%) أنثى. و كان ٢١٢ (٨٩,١%) سعودياً. بلغ عدد الذين تناولوا الطعام في التقديم الأول ١٢٠(٥٠,٤%) منهم ١٢ (١٠%) أنثى، بينما تناول ١١٨ (٤٩,٢%) الطعام في التقديم الثاني منهم ١١٤ (٩٦،٦%) أنثى. ظهرت أعراض التسمم على ٨٨ (٣٧%) ممن تناول الطعام في الحفل منهم ٦٩ (٧٨,٤%) أنثى. من المصابين بالتسمم ٢٨ (٣١,٨%) تناولوا الطعام في التقديم الأول منهم ١١ (٣٩،٣%) أنثى. بينما تناول ٦٠ شخص (٦٨,٢%) الطعام في التقديم الثاني منهم ٥٨ (٩٦،٧%) أنثى. تم عزل السالمونيلا من ٤٥،٢% من الحالات، لم يكن عمال المطبخ يحملون شهادات صحية سارية المفعول، و كان جميع العمال مصابو ن بالسالمونيلا. لم يتم أخذ عينات من الطعام حيث تم التخلص منه بعد الحفل مباشرة.

بدأ إعداد الطعام الساعة ١٢ ظهر يوم الأربعاء بتقطيع اللحم حتى الساعة الرابعة حيث بدأ طبخه. و في الساعة ٦ مساءاً أخرج اللحم من القدور ووضع في صحون كبيرة وتم تغطيته بورق القصدير في درجة حرارة الغرفة حتى الساعة ٧ مساء وفي هذه الأثناء تم طبخ الأرز في مرق اللحم لساعة من الزمن حتى نضج ثم أضيف إليه اللحم المطبوخ سابقاً وبقيت القدور على نار هادئة ثم نقل الطعام إلى موضع الحفل في الساعة ٩ وتناول الحضور الطعام الساعة ١٠ مساءاً و حفظ الباقي من الطعام في الصحون التي غطيت بورق القصدير وحفظت في العراء في موقع الحفل وفي الساعة ٢ صباحا تم تقديم الطعام المستعمل مع بعض الطعام غير المستعمل.

أظهرت النتائج علاقة إحصائية بين تأخر تناول الطعام في الحفل و بين الإصابة بالتسمم و كذلك بين تناول الطعام المتبقي و بين الإصابة بالمرض وكان الطعام ذو العلاقة الإحصائية هو الكبسة (الأرز و اللحم). والظاهر أن الطعام تعرض للتلوث بالسالمونيلا عند تحضيره و يؤيد ذلك كون جميع العمال من المصابين بالسالمونيلا و يمكن أن تكون الماشية مصابة بالسالمونيلا و يبدو أن سوء تخزين الطعام ساعد في تكاثر البكتيريا في الطعام مما يفسر كون أكثر المصابين بالتسمم ممن تناول الطعام في التقديم الثاني في وقت متأخر ويؤيد ذلك أن أكثر من تناول الطعام في التقديم الثاني من النساء و أن أكثر المصابين من النساء أيضاً. من الضروري أن يكون القائمون على طبخ الطعام و إعداده و تحضيره غير مصابين بالأمراض المعدية و أن يتم نقل الطعام و حفظه بطريقة صحيحة خاصة في فصل الصيف. كما يتضح أهمية زيادة الوعي الصحي للعاملين في مجال تحضير الأطعمة و تطبيق الشروط الصحية للحد من حالات التسمم الغذائي. كما يجب تكثيف التثقيف الصحي عند المواطنين.

إعداد: د. عبد الله الجودي، د. عبدالعزيز المزم، د. جميل شودري (برنامج الوبائيات الحقلي).

Foodborne Salmonella Outbreak in Sulyyel, 2002, cont ....

(Continued from page 3)

and risks associated with eating meat and rice increased with eating late or consumption of food remnants.

It was observed that the quality of hygiene at the restaurant was poor. All 9 restaurant workers denied a recent or past history of diarrhea; while none possessed a valid health certificate. Food preparation at the restaurant started at 2 p.m. on that day and was ready by 7 pm. At 9 p.m. the food was transported to the wedding site, and served without reheating at 10 p.m. and 2 a.m. In the second shift, unheated remnants of the earlier food were also served.

Salmonella group C non-typhoid was isolated from 40 (45.4%) patients and one patient had both Salmonella group B and C. All restaurant workers had salmonella group C. The swabs taken from the restaurant were positive for coliforms. No food samples from the food remnants was available by the time the investigation started.

– Reported by: Dr. Abdullah Al-Joudi, Dr. Abdulaziz Al-Mazam, Dr. Abdul Jamil Choudhry (Field Epidemiology Training Program).

Editors notes: This is a typical example of a food poisoning outbreak associated with poor food hygiene and time-temperature abuse. The incidence of salmonellosis is reported to have increased worldwide in recent years.[1] In a review, it was found that Salmonella spp. was the causative organism in 33% of food poisoning outbreaks in the Eastern province during the period 1991 – 1996.[2] In the year 2002, 2539 cases were reported from all-over the Kingdom of Saudi Arabia with a rate of 211.6 cases per month.[3]

Presence of the Salmonella, either in the slaughtered animal's body or contamination of the meat by the food handlers at multiple stages of preparation of the food for the wedding ceremony, is not a surprise keeping in view the disease pattern in Saudi Arabia and the known role of food handlers in the transmission of food poisoning.[4]

As obvious from the findings of the study the slow process of cooking, poor food and personal hygienic measures adopted by the restaurant staff, storage of food at luke-warm temperatures, serving the remnants of food in the second shift without reheating was contributory to the large number of cases in this accident. Involved issues include deeply embedded cultural practices and poor education of food handlers.

It is recommended that a multipronged approach should be adapted focusing on improving supervisory mechanism and health education of food handlers and general masses, to prevent occurrence of such incidents in future.

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Inside the Kingdom

May 25 – 26 2003: 4th Middle East International Symposium on Hospital Sterilization Centers and Hospital Disinfections
Location: Riyadh Armed Forces Hospital, Riyadh, Saudi Arabia.
Contact: Department of Postgraduate & Academic Affairs, Riyadh Armed Forces Hospital, P. O. Box: 7897, Riyadh: 11159, KSA. Tel: 477 7714, Ext. 4938, Fax: 476 0853. E-mail: pgaarkh@hotmail.com

Outside the Kingdom

May 19-23, 2003: Association for Professionals in Infection Control and Epidemiology Annual Educational Conference.
Location: Nashville, USA,
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Selected notifiable diseases by region, Jan—Mar 2003

	Riyadh	Makkah	Jeddah	Taif	Madinah	Qassim	Eastern	Hasa	Hafr AlBatin	Asir	Bisha	Tabuk	Hail	Al Shamal	Jizan	Najran	Baha	Al Jouf	Gorlat	Gonfuda	Total
Measles	38	0	12	20	156	2	0	0	0	0	0	1	0	1	6	1	0	0	0	0	**237**
Mumps	33	15	39	8	23	12	7	11	9	15	7	6	1	7	15	6	1	0	3	0	**218**
Rubella	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**7**
Varicella	3691	758	1871	524	1118	2584	1430	1340	1200	1690	430	978	285	172	395	318	206	110	140	111	**19351**
Brucellosis	86	5	8	31	66	147	42	4	47	305	48	2	149	38	34	41	15	16	1	9	**1094**
Meningitis mening	1	4	1	0	3	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	**11**
Meningitis other	53	12	17	13	6	6	4	10	2	0	0	4	0	0	6	0	1	0	0	4	**138**
Hepatitis A	69	20	30	10	43	41	11	10	23	78	72	22	22	37	36	55	19	3	3	1	**605**
Hepatitis B	289	25	344	16	78	50	162	9	3	69	16	11	3	10	18	2	40	0	2	3	**1150**
Hepatitis C	178	21	256	1	23	13	96	7	1	14	8	2	1	2	1	4	18	0	3	2	**651**
Hepatitis unspecified	53	4	20	0	2	0	0	8	0	53	0	24	0	0	134	0	0	0	0	1	**299**
Typhoid & praratyphoid	6	7	0	0	8	2	4	5	0	16	7	3	11	4	9	0	0	0	0	0	**82**
Amoebic dysentery	12	1	410	26	30	12	16	3	0	111	19	0	0	0	27	31	0	0	1	0	**699**
Shigellosis	34	0	29	0	3	0	12	4	16	0	4	7	0	2	2	29	4	0	0	0	**146**
Salmonellosis	74	13	45	5	4	6	151	7	2	5	11	6	0	0	1	19	4	0	2	0	**355**
Syphilis	6	0	9	0	0	0	6	5	0	0	1	0	1	0	0	1	2	0	0	0	**31**
VD, other	6	0	22	0	0	9	21	36	3	0	0	0	1	0	17	0	0	0	0	0	**115**

Comparisons of selected notifiable diseases, Jan - Mar 2002-2003

Disease	Jan-Mar 2003	Jan-Mar 2002	Change %	Jan-Mar 2003	Jan-Dec 2002	Disease	Jan-Mar 2003	Jan-Mar 2002	Change %	Jan-Mar 2003	Jan-Dec 2002
Diphtheria	1	3	-67	1	9	**Meningitis other**	138	176	-22	138	763
Pertussis	15	4	276	15	42	**Hepatitis A**	605	802	-25	605	2926
Tetanus neonat	7	7	0	7	28	**Hepatitis B**	1150	1090	6	1150	5638
Tetanus other	7	3	133	7	21	**Hepatitis C**	651	757	-14	651	4238
Poliomyelitis	0	0	0	0	0	**Hepatitis unspecified**	299	245	22	299	1227
Measles	237	100	137	237	311	**Typhoid & praratyphoid**	82	77	6	82	390
Mumps	218	164	33	218	976	**Amoebic dysentery**	699	619	13	699	4584
Rubella	9	1	800	9	11	**Shigellosis**	146	106	36	146	472
Varicella	19351	10918	77	19351	63207	**Salmonellosis**	355	377	-6	355	2539
Brucellosis	1094	980	12	1094	4687	**Syphilis**	31	28	11	31	187
Meningitis mening	11	33	-67	11	55	**VD, other**	115	90	28	115	386

Diseases of low frequency, Jan – Mar 2003

Yellow fever, Plague, Poliomyelitis, Rabies, Puerperal Sepsis, Haemolytic Uraemic Syndrome: No cases
Pertussis: 15 cases (Esatern 10, Jeddah 3, Makkah 1, Asir 1)
Neonatal Tetanus: 7 cases (Makkah 3, Jeddah 2, Riyadh 1, Tabuk 1)
Echinococcosis: 3 cases (riyadh 1, Bisha 1, Baha 1)
Guillian Barre Syndrome: 36 cases (Riyadh 9, Madinah 5, Taif 5, Jeddah 4, Asir 3, Makka 2, Qassim 1, Hail 1, Jizan 1, Hassa 1, Tabuk 1, Eastern 1, Najran 1, Qunfudah 1)