

## النشرة الوبائية السعودية تصدرها وزارة الصحة

الوكالة المساعدة للطب الوقائي وبرنامج الوبائيات الحقلية  
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### Effect of Splenectomy on Risk of Infection and other Complications among Sickle Cell Disease patients in Al-Ahsa Area - A retrospective cohort study.

Sickle cell anemia is one of the common inherited hemoglobinopathies in the Kingdom of Saudi Arabia, with the highest frequency in the Eastern province, of which Al-Ahsa region is a constituent part. A number of sickle cell disease (SCD) patients undergo surgical splenectomy to minimize the side effects of hypersplenism. The objectives of this study were to determine the effect of surgical splenectomy on the occurrence of infections and vaso-occlusive/ painful crisis in SCD patients in Al-Ahsa area, and to study its effect on the need for blood transfusion and admission into hospital. The study was conducted as a retrospective cohort study among SCD patients registered in Al-Ahsa area hospitals at end of 1424 H, with an outcome assessment period of one year (1425 H). The study population included all SCD patients who were resident of Al-Ahsa area and registered at any of the secondary/tertiary care hospitals of the city including King Fahad Hospital, Hofuf; Prince Saud Bin Jalawey Hospital; or in Pediatrics Hospital, Hofuf on 30/12/1424 H (20/2/2004 G).

The study population was divided into two groups: exposure and comparison cohort. Exposure Cohort included any member of study population who had surgical splenectomy by 30-12-1424 H (20-2-2004 G). Comparison Cohort included any member of study population who did not have surgical splenectomy by 30-12-1424 H (20-2-2004 G). Any patient below 6 months of age on that date were excluded. Study subjects were selected by simple random technique out of the eligible study cohorts, without matching. With a ratio of unexposed group to exposed of 3:1. A structured questionnaire was designed, and data collection extended for about two months from 11/01/1426 to 07/03/1426 H.

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# Effect of splenectomy on risk of infection and other complications, cont...

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A total of 113 SCD patients who had splenectomy were recruited as exposed group. Their ages ranged from 5 to 52 years (mean 18.34, SD 9.55). Males constituted 62.8%, and all were Saudis. Based on hemoglobin electrophoresis, 47.9% of splenectomized cases had HbS ranging from 50 to 70%, 47.9% had HbS from 71 to 90% and only 4.2 % had HbS above 90% at time of initial diagnosis. In addition to SCD, 33.6% had other hematological diseases; 1.8% had  $\alpha$ -thalassemia, 6.2% Beta-thalassemia major, 9.7% Beta-thalassemia minor, 18.6% G6PD deficiency and 0.9% had Henoch Schonlein Purpura (HSP), 3.5% had both Beta-thalassemia minor and G6PD deficiency. Ages at time of splenectomy varied from 2 to 49 years (mean 14.4, SD 9.17), the largest proportion (42.3%) was splenectomized by 10 years of age.

A total of 311 SCD patients without splenectomy were recruited as comparison group. Their ages ranged from 2 - 48 years (mean 14.9, SD 9.5). Males constituted 60.5%. Based on hemoglobin electrophoresis, 52.5% of had HbS ranging from 50-70%, 46.1% had HbS from 71-90%, and only 1.4% had HbS above 90%; at time of initial diagnosis; with no significant difference between the splenectomized and the non-splenectomized cases ( $P=0.239$ ). In addition to SCD, 28% had other hematological disease. Splenectomized patients were vaccinated significantly more than those non-splenectomized ( $P<0.001$ ). Splenectomized patients had received statistically significantly more Pneumococcal and Hib vaccine. Among the non-splenectomized patients only 0.6% used benzathine penicillin regularly, and 2.6% used Ospen (phenoxymethylpenicillin) regularly, which was statistically significantly lower than the splenectomized patients ( $P<0.001$ ).

Among the splenectomized patients, 47.8% had at least one hematological or infectious event during the period of follow-up, as compared to 88.7% among non-splenectomized cases (Table 1). The mean of hematological or infectious events among splenec-

tomized patients was 2.82 during the period of follow-up as compared to 5.35 events among non-splenectomized patients ( $P<0.001$ ).

Considering only infectious events, 7.1% had at least one infectious event during the period of follow-up as compared to 21.5% among non-splenectomized cases (Table 1). The mean of any infectious event among splenectomized patients was 0.089 as compared to 0.25 among non-splenectomized patients ( $P=0.002$ ).

Considering for hematological events only, 47.8% of splenectomized cases as compared to 88.7% of non-splenectomized cases had at least one hematological event (Table 1). The mean of any hematological event among splenectomized patients was 2.73 as compared to 5.10 among non-splenectomized patients ( $P<0.001$ ).

When both groups were compared for health care needs, it was observed that 3.5% of splenectomized cases as compared to 37.3% of non-splenectomized cases had received at least one blood transfusion (Table 1). Mean number of transfusions among splenectomized patients was 0.12 as compared to 0.60 among non-splenectomized patients ( $P<0.001$ ). Regarding hospital admission during the follow-up period, 43.4% of splenectomized cases as compared to 87.8% had at least one admission to the hospitals (Table 1). The mean episodes of admission into hospital among splenectomized patients was 1.23 as compared to 2.45 among non-splenectomized patients ( $P<0.001$ ).

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**Editorial notes:** SCD is a relatively common genetic disorder in the Eastern region of the Kingdom and, with the associated complications, whether hematologic or infectious, poses a heavy burden on patients, their families and health care system.<sup>1-4</sup> As observed in this study, non-splenectomized SCD patients suffered on average over 5 of such episodes in one year, leading to a mean admission rate of 2.45 times in the same period. The main constituent of the problem was a variety of hematological crisis in the form of vaso-occlusive crisis, painful crisis and bone crisis.

As part of the comprehensive management protocol of SCD patients, splenectomy has been practiced as a popular surgical procedure in patients with hypersplenism, to reduce hematological complications. The few studies conducted to evaluate the impact of this procedure showed that risks of hematological crisis (aplastic, hemolytic, acute sequestration, vaso-occlusive/painful) in splenectomized patients were significantly low as compared to non-splenectomized patients.<sup>5,6</sup> This study also demonstrated that splenectomy has been a successful procedure in this regard and has

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**Table 1: Complications of SCD patients**

	Splenectomized (N=113)		Non-splenectomized		OR	95% CI
	Yes	%	Yes	%		
<b>Complications</b>						
Any hematological or infectious event	54	47.8	275	88.4	0.12	0.07 - 0.19
Any infectious event	8	7.1	67	21.5	0.28	0.129 -
Any hematological event	54	47.8	276	88.7	0.12	0.07- 0.193
<b>Health Care need</b>						
Blood transfusion	4	3.5	116	37.3	0.06	0.22 - 0.17
Admission to hospital	49	43.4	273	87.8	0.11	0.06 - 0.18

# Effect of use of Face mask on Hajj related Acute Respiratory Infection among Hajjis from Riyadh - A Health Promotion Intervention study.

Every year about two millions Muslims from all around the world perform the pilgrimage (hajj) to the holy city of Makkah in Saudi Arabia. The unavoidable closeness of hajjis during the performance of hajj rites and in the residential area facilitates the spread of infections, particularly Acute Respiratory infections (ARI).

This study was a three pronged group randomized intervention trial aiming to investigate the effect of health education (HE) for use of face mask with provision of free face mask; or HE for face mask alone; as compared to non-intervention group regarding utilization of face mask during hajj. Another objective was to asses the effect of the use of face mask during hajj on preventing ARI, during and immediately after hajj, among domestic hajjis from Riyadh.

The study population was domestic hajjis from Riyadh who went for hajj during hajj season 1424H (January-February 2004). Two stage stratified random sampling technique was done to recruit the study population; where Hamlas (organized hajj groups) were the primary sampling unit and hajjis within the hamlas were the secondary sampling unit. A list of domestic hamlas issued by the ministry of hajj was procured. These hamlas were divided into categories (A, B, C, D, and E) according to the proximity of their rented Mina tents to the Jamarat. Category A tents were the closest and with the highest rent, while Category E were the furthest with the lowest rent, and usually used by non-Arabic speaking expatriates. Within each category (A, C, D); 3 Hamlas were randomly selected (there was no domestic category B Hamla in Riyadh,

and domestic Hamlas category E were excluded due to communication barriers), and then were randomized into three intervention groups. The first group was provided with face mask health HE message leaflets and free face masks, the second group was provided with the face mask HE education message leaflets only, while the third (control) group were not provided with either HE or face mask. ARI was defined as any person suffering from at least one of the constitutional symptoms (fever, headache, myalgia) along with one of the local symptoms (runny nose, sneezing, throat pain, cough with/without Sputum, difficulty in breathing) developing after reaching Makkah for the Hajj.

A structured questionnaire with two parts was designed for data collection. The first part was self administered, filled by hajjis from all the selected hamlas at the time of registration, immediately before departure to Makkah. This section included written consent, telephone contact number, demographic data and inquiry about chronic health problems. The second part was filled by the investigation team via telephone interviews one week post hajj, asking hajjis about their use of face mask; where and how often they used it, symptoms of ARI with date of onset, whether or not they had consulted medical services, and how many days their symptoms kept them out of work. Assessment of compliance to Mask wearing depended only on subjective questionnaire responses. Wearing the mask sometimes and always wearing the mask were both considered as compliant during analysis. Those who never

used the mask were considered as non-compliant.

A total of 995 Hajjis participated in this study; 257 (26%) were provided with face mask HE message leaflets and face masks, 292 (29%) were provided with the HE message leaflets only, while the third (control) group 446 (45%) were not provided with either HE or face masks. There were 570 (57%) males with mean age of 35.3 years (SD ±11.72), and 425 (43%) females with mean age 34.7 years (SD ±13.71). Illiterate or little formal education Hajjis constituted 8%, 18% had intermediate and high school education respectively, 43% with university level, and 9% with higher education level. Of the total were 259 (26%) with chronic illness; of those 64 (25%) were diabetic, 36 (14%) asthmatic, and 50 (19%) with hypertension. There were 9% daily smokers, 9% ex-smokers, and 80% non-smokers.

All Hajjis left Riyadh on the 7th of Thul-hijjah, 50% by bus and 50% by airplane, coming back between the 12th and 16th of the month.

Among the no-intervention group 33.6% hajjis used face mask during hajj, among HE alone group 51.7% used faced mask and among HE with free face mask group 81.3% used face mask. As compared to no-intervention group odds ratio of complying with mask wearing in the HE alone group was 2.11 (95% CI 1.56-2.86) and in the HE with free face mask group was 8.59 (95% CI 5.93-12.44). When this association was controlled for the potential confounding effect of age, gender and educational status of the hajjis, the odds ratio became some-

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**Table 1: Relationship between intervention and compliance with mask wearing. (n=995)**

Categories	Total	Complied with face-mask usage		Crude OR (95% CI)	Adjusted OR (95% CI)
		Yes N (%)	No N (%)		
No intervention	446	150 (33.6)	296 (66.4)	1	1
HE alone	292	151 (51.7)	141 (48.3)	2.11 (1.56-2.86)	2.26 (1.65 – 3.09)
HE + Facemask	257	209 (81.3)	48 (18.7)	8.59 (5.93-12.44)	9.90 (6.74 – 14.57)

## Effect of splenectomy on risk of infection and other complications, cont...

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been able to decrease the incidence of hematological events almost by half. Advantages of this reduction in complication was also evident in the hospital admission, which was also halved among splenectomized patients; whereas the number of blood transfusions were almost one fifth among splenectomized as compared to non-splenectomized patients, during one year of study. Although the study did not attempt to perform the cost benefit analysis of this procedure, but expectantly the cost of procedure is outweighed by the decrease in the cost of health care in the longer run; while the long term reduction in the patient suffering is quite obvious. So on the basis of this study we can safely recommend

that splenectomy should be encouraged among sickle cell disease patients with recurrent attacks of vaso-occlusive crises, repeated admissions, and frequent blood transfusions.

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## Effect of use of Face mask on Hajj related Acute Respiratory Infection among Hajjis from Riyadh, cont...

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what stronger and remained statistically significant. (Table 1)

Among the total participants 255 (25.6%) developed ARI within one week of returning from hajj. However, no association was observed between compliance with face mask wearing and developing ARI (OR 0.97, 95% CI 0.73-1.28).

— Reported by: Dr. Ebtihal Zeinul Abidin, Dr. Abdul Jamil Choudhry, Dr. Alia Al-Naji (Field Epidemiology Training Program).

**Editorial notes:** Acute respiratory infections (ARI's) have been considered low priority health problems because of their low mortality, despite their high morbidity rates.<sup>1,2</sup> A previous study conducted by the Field Epidemiology Training Program among domestic hajjis from Riyadh during hajj season of 1423H (2003G) reported that almost 40% of domestic hajjis developed ARI during hajj or within one week of their return back home.<sup>3</sup> ARI can affect the ability of hajjis to successfully complete their hajj rites and also increases the load on health facilities in both the holy

places and the hajjees place of origin. Post hajj symptoms of ARI prevent hajjis from returning back to work, thus decreasing their productivity, and costing the country a considerable amount of money.

A simple prevention method against ARI that can break the cycle of disease transmission is using a simple face mask. Their regular use has been associated in previous studies with a substantial decrease in ARI incidence.<sup>4</sup> The previous FETP study also reported that the use of face mask was associated with lower ARI attack rates, at least among males.<sup>3</sup> This study has been successful in exhibiting that both the mask promotion intervention significantly increased the face mask usage, and as expected free distribution of mask along with HE pamphlets produced a remarkable change in mask usage. However, the observation that no association was found between face mask wearing and ARI, tone down the applicability of this finding as such and highlight the need of in-depth analysis of the data or conducting another study with more objective measurement of ARI.

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# Tinia capitis outbreak among school students, Al Hayt, Hail, 1426 H.

During the period of 4/1/1426 to 17/2/1426 an increased number of alopecia cases were reported to the Primary Health Care Center (PHCC) in Al-Hayt Muhafadha, Hail region. The situation was reported to the infectious disease department in MOH, the Directorate of Education, and the municipality. The Field Epidemiology Training Program was requested to investigate this outbreak.

Al Hayt (Fadak) is a small Muhafadha, located 200 km southwest of Hail city on the way to Al-Madina Al-Monawara. It belongs administratively to Hail region, Hail directorate of health affairs. Al-Hayt health services consist of one MOH PHCC, and one school PHCC.

On the first day the investigating team discussed the problem with the Directorate General of health affairs, met the PHCC directors, public health director, and public health inspectors in Hail general health directorate. The team visited Al-Hayt PHCC, the school PHCC, and the four schools where cases had appeared.

It was found that in the international week from 3-10/1/1426, several cases of alopecia and scalp infection were reported from Fadak primary school. The school physician advised total head shaving for all the students. Within several days of shaving, the number of cases increased up to 95. This was reported to Al-Hayt PHCC and Hail General Health Directorate, which started taking appropriate actions by providing antifungal medication, Nizoral shampoo; and sick leave for infected students. The Directorate of Education inspected the four schools and fumigated all the classes. The municipality inspected the barbershops, and reported them to be unclean and shaving instruments were dirty. Most of the barbershops did not have sterilizer machines and, if available, were not used. The municipality temporarily closed the barbershops after penalizing them, and ordered them to re-open only after completing the proper hygienic prerequisites.

The investigating team conducted a case control study to identify the source of the outbreak and to assess contributing factors. A case was defined as any school student in Al-Hayt

city who had hair loss with or without, any of the following symptoms: itching, discharge from the scalp, scaly lesion or redness in the scalp, bad smell in the head or any other skin manifestations. Controls were selected from the colleagues of the cases, from the same class in the same school and of the same age. Two controls were selected for each case.

A total of 370 school students were interviewed, 120 of who had developed alopecia and 250 were used as controls. Those students were from different educational levels (primary, intermediate, and secondary schools). The majority of the cases were primary school students. The cases appeared in 4 schools, the majority of from Fadak primary school (31%), from which the outbreak started. The ages of cases ranged from 6-21 years (mean 11 years, SD ±2.8). All were male. The majority were Saudis 117 (97.5%) and 3 were non-Saudi (2.5%). The main presenting symptoms were scalp itching 78 (65%), discharging scalp lesion 64 (53.3%), hair loss 59 (48.3%), bad smell 22

(18.4%), redness 13 (10.8), associated skin lesion in the body 4 (3.3%), and other medical problems 2 (1.7%).

Of the 120 cases, 103 (87.5%) had sought medical care and were given proper treatment; 90 (75.0%) shaved their heads; and symptoms improved spontaneously in 34 cases (28.3%).

On analysis, shaving of the head during that period was the most significant risk factor (Table 1), followed by contact with an infected person, sharing personal belongings between family members, particularly brothers' clothes. Sharing combs was not significant. Sharing towels, hats (taqqia) and Ghotra (Shemagh) were not risk factors. Switching beds with a sibling increased the risk of infection, while having a separate bed was protective. Presence of domestic animals at home was another risk factor, particularly cats.

– Reported by: Dr. Abdullah Abusail, Dr. Adel Turkistani, Dr. Randa Nooh (Field Epidemiology Training Program).

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**Table 1: Risk factors for acquiring *Tinia capitis* infection among school students, Hail, Hail, 1426 H.**

	Cases n = 120	Controls n = 250	OR	95 % CI
Shaved head after developing symptoms	90 30	7 243	104.1	99.2 - 245.5
Contact with infected students at school	102 18	130 120	5.2	2.9 - 9.5
Wear hats (Taqqia) of classmate	8 112	8 242	2.2	0.72 - 6.52
Share personal belongings with brother	35 85	49 201	1.68	1.02 - 2.79
Share clothes with brother	11 109	8 242	3.05	1.19 - 7.80
Share comb or hair brush with brother	24 96	33 217	1.64	0.92 - 2.93
Share Ghotra or shemagh with brother	5 115	17 233	0.59	0.21 - 1.65
Have separate bed	100 20	215 35	0.81	0.43 - 1.55
Switch bed with brother	24 96	26 224	2.15	1.13 - 4.11
Contact with any domestic animal at home	31 89	33 217	2.29	1.28 - 4.11
Contact with cats	19 101	12 238	3.73	1.65 - 8.53

## ملخص باللغة العربية

### دراسة مدى تأثير استئصال الطحال لدى مرضى التكرس المنجلي بالأحساء.

مرض التكرس المنجلي هو احد امراض الدم الوراثية التي تنتج عن خلل في الجين المسؤول عن تكوين الهيموغلوبين المكون لخلايا الدم الحمراء، و هو احد امراض الدم الوراثية الاكثر انتشارا في المملكة العربية السعودية. أعلى نسبة انتشار لمرض التكرس في المملكة في المنطقة الشرقية، واقل نسبة في المنطقة الوسطى.

تم اجراء دراسة استقصائية استرجاعية وبائية ( Retrospective cohort study ) في محافظة الاحساء بالمنطقة الشرقية من المملكة العربية السعودية تهدف الى تحديد مدى تأثير استئصال الطحال لدى مرضى التكرس المنجلي بالأحساء على اصابتهم بالالتهابات، و على اصابتهم بنوبات التكرس الحادة المؤلمة، وعلى مدى احتياجهم لنقل الدم والتتويج او الدخول الى المستشفى من جراء هذا المرض. شملت الدراسة المرضى المسجلين في كل من: مستشفى الملك فهد بالهفوف، مستشفى الامير سعود بن جلوي، مستشفى الولادة والاطفال، ومركز امراض الدم الوراثية.

تم تقسيم المرضى الى مجموعتين رئيسيتين: مجموعة مرضى التكرس الذين تم استئصال الطحال لديهم قبل تاريخ 1/1/1425 هـ، و مجموعة مرضى التكرس الذين لم يتم عمل لهم استئصال للطحال حتى تاريخ 1/1/1425 هـ. تم استبعاد المرضى الذين تقل اعمارهم عن ستة اشهر عن المجموعتين. تم جمع 113 حالة من المرضى المصابين بالتكرس والذين تم عمل لهم استئصال للطحال، و 311 حالة من مرضى التكرس الذين لم يعمل لهم استئصال للطحال. بالنسبة لمرضى التكرس الذين تم استئصال الطحال لهم، فتراوحت اعمارهم بين 2 و 52 سنة (متوسط 18 سنة)، 62.8% منهم من النساء، جميعهم سعوديين، 69% منهم طلاب. بالنسبة لمستوى التعليم 44.25% لديهم المستوى الابتدائي. 53.1% تم اعطاؤهم بعض التطعيمات مثل ( pneumococcal ) و الانفلونزا نوع (ب). 15% من هؤلاء المرضى استعمل مضاد حيوي (البنسلين) على شكل ابر و 18.6% استعمله عن طريق الهم.

بالنسبة لمرضى التكرس الذين لم يعمل لهم استئصال للطحال، فتراوحت اعمارهم بين 2- 48 سنة (متوسط 14.9 سنة)، 60.5% منهم من الرجال، جميعهم سعوديين، 58.8% طلاب، و بالنسبة لمستوى التعليم فالغالبية كان لديهم المستوى المتوسط. 71.7% لم يتم تطعيمهم، 0.6% استعمل مضاد حيوي (البنسلين) على شكل ابر و 2.6% استعمله عن طريق الهم.

تبين من خلال الدراسة ان كل من المرضى الذين تم استئصال الطحال لهم والمرضى الذين لم يتم استئصال الطحال لهم قد حدثت لهم عدد من الالتهابات ونوبات التكرس الحادة، حيث ان 47.8% من مرضى التكرس الذين تم استئصال الطحال لهم قد حدث لهم على الاقل التهاب او نوبة تكرس خلال سنة الدراسة، مقارنة بـ 88.7% من المرضى الذين لم يتم استئصال الطحال لهم، و ان خطورة الإصابة بالالتهاب او نوبات التكرس لدى

مرضى التكرس الذين تم استئصال الطحال لهم اقل بكثير من المرضى الذين لم يتم استئصال الطحال لهم. كما تبين ان كل من الالتهابات على حدة ونوبات التكرس على حدة اقل بكثير لدى مرضى التكرس الذين تم عمل استئصال الطحال لهم. كما و ان نسبة الاحتياج لنقل الدم كانت اقل بكثير لدى المرضى الذين تم لهم استئصال الطحال (3.5%) مقارنة بالمرضى الذين لم يعمل لهم ذلك (37.3%)، و ان نسبة الاحتياج لدخول المستشفى والتتويج فيه اقل بكثير لدى المرضى الذين تم استئصال الطحال لهم (43.4%) عن الذين لم يعمل لهم ذلك (87.8%).

أثبتت الدراسة ان عملية استئصال الطحال جراحيا لدى مرضى التكرس مصحوبة بانخفاض خطورة الإصابة بالالتهابات ونوبات التكرس الحادة ومعدل الاحتياج لنقل الدم و للتتويج بالمستشفى. تمت التوصية على تشجيع عملية استئصال الطحال لدى مرضى التكرس خاصة للمرضى الذين يعانون من نوبات متكررة وحادة، ودخول متكرر للمستشفى ونقل متكرر، و انشاء مراكز متخصصة لمرضى التكرس لمعالجتهم ومتابعتهم في المناطق التي يكثر بها هذا المرض.

اعداد: د. عيسى الصالح، د. عبدالجميل شويري (برنامج الوبائيات الحقلية)، د. أحمد السليمان (مستشفى الملك فهد بالهفوف)، د. منير البقشي (مستشفى الولادة و الاطفال بالهفوف)، د. غالب (مستشفى الأمير سعود بن جلوي بالهفوف).

### فأشية القراع الجلدي بمنطقة حائل 2005

في الفترة بين 4-1-1426 إلى 17-2-1426 كانت هناك زيادة ملحوظة في حالات التهاب جلدي بالراس وتساقط للشعر في محافظة الحائط (فدك) بمنطقة حائل وظهرت الحالات بين الطلاب بمدرسة فدك الابتدائية. قام فريق من برنامج الوبائيات الحقلية بعمل دراسة ميدانية للوقوف على هذا الوباء ومعرفة اسبابه ومصدره.

كانت الحالات في البداية محدودة ولكن بعد عدة أيام بعد ان قام معظم طلاب المدرسة بالحلاقة ارتفع عدد الحالات الى 95. بلغ إجمالي الحالات المبلغ حتى نهاية الفأشية حوالي 137 حالة وجميعهم ذكور. وقد انتشرت الإصابة بعد ذلك في ثلاث مدارس أخرى. وقد أرسلت إدارة التعليم فرق لتنظيف المدارس وتقييمها، كما قامت الشئون البلدية بنقل محلات الحلاقة بالمحافظة والغير موافقة للشروط الصحية. وقامت الشئون الصحية بتوفير مراهم وشامبو نيزورال والتشديد على ضرورة المحافظة على النظافة الشخصية.

تم عمل دراسة (case-control) شملت 370 طالب من أربع مدارس ظهرت بها الحالات. كان تعريف الحالة المصابة هي التي أصيبت بمشكلة تساقط الشعر، حكة شديدة بجلد فروة الراس مع أو بدون الأعراض التالية: تقرحات بجلد فروة الراس، رائحة نتنة بالراس أو إجمار بجلد فروة الراس. أما الحالة الضابطة فهي زميل سليم من زملاء الطالب المصاب في نفس الصف الدراسي، في نفس العمر و في نفس المدرسة. تمت مقابلة 120 حالة و250 طالب سليم وأخذ بياناتهم. كما تمت مراجعة ملفات المرضى

بالمركز الصحي بالمحافظة. تراوحت اعمار المصابين بين 5 الى 21 سنة (متوسط العمر 10.2 سنة، الانحراف المعياري 2.78). كان بين المصابون 117 حالة (97.5%) سعوديين و 3 غير السعوديين (2.5%)، وكان العدد الأكبر من الحالات من مدرسة فدك (42.5%).

وكانت الأعراض حكة شديدة بفروة الراس (78%)، تقرحات بفروة الراس (53.3%)، تساقط الشعر (48.3%)، رائحة نتنة بالراس (19.2%)، وأعراض أخرى (6.6%). وكان السبب الرئيسي والأكثر خطورة هو عمل الحلاقة لمعظم طلاب المدارس بعد ظهور حالات محدودة حيث كان معامل (OR) هو 104.1 وفترة الثقة (CI) = (245.5-99.2)، كما كان للاملامسة المباشرة بالطلاب المصابين تأثيراً واضحاً أيضاً (OR) = (5.2) وفترة الثقة (CI) = (9.5-2.9)، إضافة الى وجود الحيوانات الأليفة بالمنزل (( (OR) = 2.29 وفترة الثقة (CI) = (4.11-1.28) وخاصة القطط (( (OR) = 3.73 وفترة الثقة (CI) = (8.53-1.65). و أيضاً بعض الممارسات الصحية الخاطئة مثل مشاركة الطلاب إخوانهم أشيائهم الشخصية كالملابس (( (OR) = 3.05 وفترة الثقة (CI) = (7.80-1.19) والمناشف (( (OR) = 1.88 وفترة الثقة (CI) = (3.56-0.99)، وأمشاط وفرش الشعر (( (OR) = 1.64 وفترة الثقة (CI) = (2.93-0.92).

كانت الصورة الوبائية للمرض تدل على ان الحالات هي مرض القراع الجلدي (Tinea Capitis) وهو مرض فطري يسببه فطر من عائلة تدعى (Dermatophytes) ومن جنس (Trichophyton) وهو الأكثر انتشارا ويسبب التهاب في جلد فروة الراس وجذور الشعر يؤدي إلى تساقط الشعر وتقرحات بفروة الراس. تمت التوصية على توخي الحرص في اكتشاف الحالات المنفردة المصابة وتشخيصها مبكرا والعمل على عزلها عن الاختلاط بالأشخاص السليمين حتى يتم شفاؤها، إضافة الى ضرورة القيام بجولات على صالونات الحلاقة للتأكد من نظافة أدوات الحلاقة و تعقيمها بعد كل حلاقة، حث المجتمع على الحفاظ على الاهتمام بالنظافة الشخصية وعدم الاشتراك في استخدام الأشياء الشخصية كالملابس وأمشاط الشعر والمناشف والقبعات والغتر، تثقيف طلاب المدارس عن المرض وطرق انتقاله وكيفية الوقاية منه عن طريق الصحة المدرسية، و تثقيف المجتمع عن المرض وطرق انتقاله وكيفية الوقاية منه.

اعداد: د. عبدالله أبوسيل، د. عادل تركستاني، د. رانده نوح (برنامج الوبائيات الحقلية).

## Tinea capitis outbreak, cont...

(Continued from page 29)

**Editorial notes:** Dermatophytes are fungi that can infect the skin, hair, and nails. These organisms, which include *Trichophyton*, *Microsporum*, and *Epi-dermophyton* species, are classified as anthropophilic, zoophilic, or geophilic, depending on whether their primary source is humans, animals, or the soil, respectively. Anthropophilic dermatophytes are the most common cause of fungal skin infections in humans. Transmission occurs from direct contact between people or from exposure to desquamated skin cells present in the environment—arthrospores can survive for months. Direct inoculation of the spores through breaks in the skin can lead to germination and subsequent invasion of the superficial cutaneous layers.<sup>1</sup> On the other hand, human infections with zoophilic species have occurred after exposure to dogs, cats, horses, cattle, pigs, rodents, poultry, hedgehogs, and voles.<sup>1</sup>

The various forms of dermatophytosis, also called ringworm, are named according to the site involved. Infection of the scalp is known as tinea capitis. The characteristic skin lesion is an annular scaly patch. The clinical appearance varies with the site involved, the host's immune status and the type of infecting organism.<sup>1</sup>

Tinea capitis is the most frequent fungal infection in children under the age of puberty. Only *Microsporum* and *Trichophyton* species cause tinea capitis. Infection begins with invasion of the stratum corneum of the scalp skin. The hairs then become infected, in one of three microscopic patterns: ectothrix, endothrix, or favus. In all three types, scaling, hair loss, and inflammation of varying degrees are present.<sup>1</sup>

Despite the benign curable nature of the disease, inter-human transmission of tinea capitis is nevertheless a considerable public health problem due to the increasing number of children affected and the risk of contagion in schools. In a study investigating the prevalence and etiology of tinea capitis in a primary school in Kinea, the prevalence was high 33.3%, peak age of infection was 10 years, ratio of

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E-mail: [mahmoud@arab-diabetes.com](mailto:mahmoud@arab-diabetes.com)

infected males to females was 2.1, and *T. tonsurans* was isolated in 77.8%, *T. rubrum* in 4%.<sup>2</sup>

This study showed that sharing personal belongings between members of the same family was associated with an increased risk of infection, which agrees with recent studies that have demonstrated that transmission occurs more often in the family than the school setting, particularly indirectly by common use of grooming instruments.<sup>1</sup>

Oral antifungal medication with griseofulvin are the first line of drug treatment. Health education on the aetiology, treatment and prevention of tinea capitis should be given.

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2. Ayaya SO; Kamar KK; Kakai R. Aetiology of tinea capitis in school children. *East Afr Med J* 2001; 78(10): 531-5.

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Consultant Epidemiologist.

## Selected notifiable diseases by region, Oct — Dec 2005

	Riyadh	Makkah	Jeddah	Madinah	Taif	Qassim	Eastern	Hasa	Hafr Al-Batin	Asir	Bisha	Tabuk	Hail	Al-Shammal	Jizan	Najran	Baha	Al-Jouf	Goriat	Gonfuda	Total	
Measles	7	0	24	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	32
Mumps	0	0	0	1	0	3	3	0	0	0	0	4	0	0	0	0	0	0	0	0	0	11
Rubella	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Varicella	1599	260	707	426	255	1475	918	779	342	972	204	410	144	93	132	232	302	34	22	30	9336	
Meningitis mening.	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Meningitis other	30	4	55	14	17	9	5	16	0	2	0	4	0	1	5	0	0	0	0	0	0	162
Hepatitis B	179	29	315	80	9	79	93	12	2	40	8	71	8	3	28	4	54	0	1	16	1031	
Hepatitis C	138	22	269	48	0	51	58	11	1	12	17	37	6	5	9	0	22	0	0	8	714	
Hepatitis unspcified	30	0	12	0	0	0	1	9	0	16	0	19	1	0	119	0	0	0	0	0	207	
Hepatitis A	63	20	34	37	20	148	14	7	17	37	5	62	41	22	44	76	6	8	5	0	666	
Typhoid & paratyphoid	3	4	0	4	0	2	3	7	0	8	3	0	7	8	1	1	2	0	1	0	54	
Amoebic dysentery	7	1	424	10	12	18	44	22	9	22	30	0	1	1	19	1	4	0	1	1	627	
Shigellosis	10	0	3	1	0	11	2	4	6	0	0	6	0	10	0	5	0	0	1	0	59	
Salmonellosis	105	9	25	5	0	7	102	22	16	13	6	14	0	0	0	14	22	0	1	3	364	
Brucellosis	60	8	8	19	25	97	51	8	17	190	24	10	99	13	51	22	6	1	1	1	711	

## Comparisons of selected notifiable diseases, Oct - Dec 2004-2005

DISEASE	Oct-Dec 2005	Oct-Dec 2004	Change %	Jan-Dec 2005	Jan-Dec 2004	DISEASE	Oct-Dec 2005	Oct-Dec 2004	Change %	Jan-Dec 2005	Jan-Dec 2004
Cholera	2	6	-67	12	14	Meningitis mening.	5	2	150	19	10
Diphtheria	0	0	0	7	0	Meningitis other	168	105	60	510	508
Pertussis	2	7	-71	21	64	Hepatitis B	1031	974	6	4209	4594
Tetanus, neonat	6	8	-25	22	37	Hepatitis C	714	654	9	2674	2981
Tetanus, other	2	4	-50	10	11	Hepatitis unspcified	207	349	-41	1179	1260
Poliomyelitis	0	2	-100	0	2	Hepatitis A	666	670	-1	2461	2999
Guillain Barre Syndrome	36	25	44	113	99	Typhoid & paratyphoid	54	68	-21	325	365
Measles	32	56	-43	290	1775	Amoebic dysentery	627	609	3	2806	2696
Mumps	11	41	-73	85	349	Shigellosis	59	63	-6	198	310
Rubella	1	4	-75	6	17	Salmonellosis	364	418	-13	1349	1829
Varicella	9336	9570	-2	45389	67451	Brucellosis	711	892	-20	3804	5169

## Diseases of low frequency, Oct – Dec 2005

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

Pertussis: 2 Cases (Hasa 1, Qassim 1) ; Neonatal Tetanus: 6 Cases (Makkah 4, Jeddah 2)

Ecchinococcosis: 3 Cases (Baha 2, Riyadh 1)

Guillain Barre Syndrome: 36 Cases ( Riyadh 12, Madinah 4, Qassim 3, Jazan 3, Hasa3, Eastern 2, Asir 2, Jeddah 1, Tabuk 1, Hafr Al-Batin 1, Baha 1, Hail 1, Bisha 1, Northern 1)