

of blood pressure or fluid management of the patients in INR, and no patients required any pharmacological agents to control their blood pressure during the procedure. Target level controlled sedation is an alternative to GA in GDC embolization of intracranial aneurysms. Monitoring standards (electrocardiogram, pulse oximetry, non invasive blood pressure, capnography, central venous lines for volume status) for anesthesia in the INR suite, is not different from the operation room.^{7,8}

Published data suggest that oximetry effectively detects oxygen desaturation and hypoxemia in patients who are administered sedatives/analgesics, and early detection of hypoxemia through the use of oximetry during sedation decreases the likelihood of adverse outcomes.⁹ The use of propofol or midazolam in INR suite requires the presence of an anesthetist, as the primary complication of sedation is related to respiratory or cardiovascular depression. Safety aspects such as the need for assisted ventilation in cases of apnea must be ready.¹⁰ Our results suggest that the application of sedatives in TLCS may yield even better levels of safety compared with the conventional infusion of midazolam and propofol. The weakness of this study or the question of the readers may be "why the authors have not compared TLCS with GA for GDC embolization procedure?" The brief answer is; there is no information in the literature regarding the sedative management of patients with cerebral aneurysms undergoing endovascular treatment in the INR suite. And the next step of this study will be the comparison of GA versus TLCS.

In conclusion, the anesthetic management of patients with cerebral aneurysms performed using GDC embolization under TLCS appears to be feasible, and allows intra-procedural evaluation of the patient. Potential advantages of TLCS include early detection of neurological complications, decreased cardiopulmonary morbidity rates, shorter hospital stay, and lower hospital costs.

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References

1. Miller RD. Anesthesia: use of sedative-analgesic drugs during MAC. 5th ed. Pennsylvania (PA): Churchill Livingstone; 2000. p. 1454-1460.
2. Viñuela F, Duckwiler G, Mawad M. Guglielmi detachable coil embolization of acute intracranial aneurysm: perioperative anatomical and clinical outcome in 403 patients. *J Neurosurg* 1997; 86: 475-482.

3. Young WL, Pile-Spellman J. Anesthetic considerations for interventional neuroradiology. *Anesthesiology* 1994; 8: 427-456.
4. Dangor AA, Lam AM. Anesthesia for cerebral aneurysm surgery. *Neurosurg Clin N Am* 1998; 9: 647-659.
5. Zander JF. Subarachnoid hemorrhage. *Cur Opin Anaesthesiol* 1999; 12: 503-509.
6. Manninen PH, Chan ASH, Papworth D. Conscious sedation for interventional neuroradiology: a comparison of midazolam and propofol infusion. *Can J Anaesth* 1997; 44: 26-30.
7. Qureshi AI, Suri MF, Khan J, Kim SH, Fessler RD, Ringer AJ, et al. Endovascular treatment of intracranial aneurysms by using Guglielmi detachable coils in awake patients: safety and feasibility. *J Neurosurg* 2001; 94: 880-885.
8. Manninen PH. Anaesthesia outside the operating room. *Can J Anaesth* 1991; 38: R126-129.
9. Practice Guidelines for Sedation and Analgesia by Non-Anesthesiologists. Developed by the American Society of Anesthesiologists Task Force on Sedation and Analgesia by Non-Anesthesiologists. *Anesthesiology* 2002; 96: 1004-1017.
10. Shaughnessy TE. Sedation services for the anesthesiologist. *Anesthesiol Clin North America* 1999; 17: 355-363.

The frequency of skin diseases in obese children and adult Iraqi population

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Obesity is a major health problem that is commonly associated with skin manifestations, such as acanthosis nigricans and skin tags, but unfortunately, only limited studies exist concerning this problem.¹ The aim of the present work is to evaluate the frequency of skin diseases among obese children and adults.

This study consists of 2 parts. **Part I:** We took a cross-sectional sample from Basrah primary schools (urban only). We carried out the study from December 2003 to March 2004, and included 13 primary schools; 8 for boys and 5 for girls. The number of pupils in the sample was 4189; 2616 boys and 1573 girls. We used body mass index [(BMI) = (weight [kg])/height [m]²] to select the number of overweight and obese subjects considered for study. There were 52 obese; 34 boys and 18 girls, and 94 overweight; 56 boys and 38 girls, their ages ranged from 7-13 years. We considered 100 pupils; 60 boys and 40 girls of normal weight as the control group, comparable for age, sex and selected from the same class as the obese pupils. We carried out a full clinical and dermatological examination to establish the

diagnosis of skin diseases. **Table 1** shows the frequency of skin diseases found in the normal BMI, overweight and obese children, and we found no differences between the BMI groups for the following skin diseases: palmar peeling, pityriasis alba, macular hypopigmentation, pityriasis versicolor, and perioral hyperpigmentation.

Part 2: A case series descriptive epidemiological study conducted at Baghdad, Teaching Hospital, Department of Dermatology and Venereology, Baghdad, Iraq from December 2003 to August 2004. We included 100 obese cases; 60 males and 40 females, with an age range of 18-54 years, and 100 normal weight individuals attending the same department; 60 males and 40 females, as the control group with the same age range. The frequency of skin diseases was significantly high (p -value <0.026 - 0.00001) in the adult obese group compared with normal BMI individuals, which included the following diseases: acanthosis nigricans (72% versus 1%), planter hyperkeratosis (47% versus 9%), skin tags (58% versus 30%), striae distensae (33% versus 10%), intertrigo (52% versus 6%), hyperhidrosis (30% versus 4%), dry skin (23% versus 10%), and erythrasma (11% versus 3%). While we found other diseases such as hirsutism (20% versus 7.5%), tinea cruris (13% versus 9%), tinea versicolor (11% versus 7%), boils (8% versus 3%) and warts (8% versus 7%), increased among obese individuals, but they were not statistically significant (p -value >0.78 - 0.05). Other diseases such as dermatitis, psoriasis, leukonychia, and

alopecia areata, were no different in both obese and normal BMI adult individuals.

The present study emphasizes the strong association of skin manifestations and obesity, which reflects the abnormal metabolism mainly insulin resistance, and we also found that the frequency of skin diseases is parallel with the degree of obesity, especially in children.

Acanthosis nigricans (AN) is a major problem among obese individuals, and has been reported in 74%.¹ The present work showed 59.6% among children and 72% among adults, while it was absent in normal weight children, and only 1% in normal weight adults. It has been suggested that hyperinsulinemia is a cause of AN by stimulation of insulin like growth factor 1.² Also in a recent Iraqi study, AN has been reported in 68.75% of infertile females with polycystic ovarian syndrome (PCOS).³ There is a definite association between skin tags and adult obesity.¹ We found skin tags in 13.5% of obese children, and 58% in obese adults, while it was absent in normal weight children, and only 30% in normal weight adults. Obese individuals in both the children and adult groups, showed increased prevalence of planter hyperkeratosis; 48.1% in children and 47% in adult individuals in comparison with normal weight individuals 2% in children and 9% in adults. Only one study has shown an increase in planter hyperkeratosis in obese adults.¹ This study shows a striking association between obesity and striae distensae, both in children and adult individuals compared to normal BMI children and adults. These findings are comparable to previous

Table 1 - Frequency of skin diseases found in normal BMI, overweight and obese children included in the study.

Skin diseases	Number (%)						Part 1 <i>p</i> values	Part 2 <i>p</i> values
	Normal BMI		Overweight		Obese			
Acanthosis nigricans	0	(0)	26	(27.65)	31	(59.6)	0.0000001	<0.00001
Planter hyperkeratosis	2	(2)	10	(10.6)	25	(48)	0.0000001	<0.00001
Skin tags	0	(0)	1	(1.1)	7	(13.5)	0.000016	<0.0001
Striae distensae	2	(2)	15	(15.95)	18	(34.6)	0.0000003	<0.00007
Intertrigo	1	(1)	3	(3.2)	19	(36.5)	0.0000001	<0.00001
Dry skin	3	(3)	12	(12.8)	24	(46.15)	0.0000001	<0.01
Hyperhidrosis	0	(0)	1	(1.1)	6	(11.5)	0.0001	<0.00001
Dermatitis	3	(3)	6	(6.4)	6	(11.5)	0.11	
Common warts	1	(1)	2	(2.1)	2	(3.8)	0.49	
Leukonychia	10	(10)	15	(15.95)	8	(15.4)	0.4	0.78
Angular cheilitis	1	(1)	1	(1.1)	3	(5.8)	0.09	
<i>Skin infections</i>	1	(1)	2	(2.1)	2	(3.8)	0.49	
Impetigo								
Boils								0.12
Tinea cruris								>0.05
Tinea versicolor								0.322

reports in adults of 42.9%,¹ however, there is no record of striae distensae among obese children. Previous reports demonstrate intertrigo among obese individuals,⁴ and we similarly observed this in the present work, as we found intertrigo higher in obese versus normal adult individuals and children. Dry skin was a common problem found more in the obese individuals, mainly affecting cheeks, dorsa of the hands, feet, and legs. This observation was not noticed before, and we could find no clear explanation. We found hyperhidrosis high in obese individuals, when compared to overweight and normal weight children, and similarly found in adult obese in comparison with normal weight individuals. Previous reports confirm this.⁵ Previous studies found skin infections, mainly in the form of boils, wart, tinea cruris, and erythrasma increased among obese individuals.¹ While in the present work although they did not reach statistically significant levels, we found more in obese individuals than normal weight individuals, apart from erythrasma, which was significantly high in adult obese individuals. The association between hirsutism and obesity was not clear in the literature, and often hirsutism had been reported to be high in obese females with PCOS.³ Similarly, in the present work, although it did not reach a statistically significant level, we found more in adult obese females than normal weight females.

The excessive fat deposition that leads to thickening of the fatty layer all over the body deserves the term adipomegaly, rather than obesity as it is more scientific, academic, and more socially and publically accepted.

In conclusion, skin manifestations are a common problem, and important markers of obesity reflecting impaired metabolism, especially acanthosis nigricans, skin tags, and planter hyperkeratosis.

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References

1. Garcia HL. Dermatological complications of obesity. *Am J Clin Dermatol* 2002; 3: 497-506.
2. Cruz PD Jr, Hud JA Jr. Excess insulin binding to insulin like growth factor receptors; proposed Mech for Acanthosis Nigricans. *J Invest Dermatol* 1992; 98: 82-85.
3. Sharquie KE, Al-Bayatti AA, Al-Zaidi QM, Al-Bahar AJ. Acanthosis nigricans as skin manifestation of polycystic ovarian syndrome in primary infertile female. *Middle East Fertility Society Journal* 2004; 9: 136-139.

4. Ive FA. The umbilical, perianal and genital regions. In: Champion RH, Burton DA, Burns SM, editors. *Breathnach. Rook textbook of Dermatology*. 6th ed. London: Blackwell Science Ltd.; 1998. p. 3167-3168.
5. Sato K, Kang WH, Saga K. Biology of sweat glands and their disorders. *J Am Acad Dermatol* 1989; 20: 537-563.

Prescribing pattern of angiotensin-converting enzyme inhibitors and beta blockers after acute myocardial infarction

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In recent years, many clinical trials suggested using certain medications such as beta-blockers (BB), angiotensin converting enzyme inhibitors (ACE-I), low dose aspirin, and statins to reduce morbidity and mortality after acute myocardial infarction (AMI). Since the 1980s, we have known the clinical benefits of BB post AMI. Angiotensin converting enzyme inhibitors are also useful in managing asymptomatic and symptomatic left-ventricular dysfunction (LVD), and thus preventing the development of cardiac remodeling process after AMI.¹ Lipid lowering agents, in particular statins decrease the risk of coronary events and total mortality in patients after myocardial infarction.² Previous randomized trials illustrate the significant reductions of mortality rate in patients receiving aspirin for secondary prevention after AMI.³ To evaluate the impact of these clinical trials and evidence based medicine on physician practice pattern, we examined the trends in the use of BB, ACE-I and other medication therapy in patients discharged after AMI. We tried to identify clinical factors associated with ACE-I prescribing patterns.

The data were collected from Al-Watani Governmental Hospital in Nablus, Palestine from January to December 2004. The medical files of patients admitted to the ICU and diagnosed with AMI were reviewed and analyzed. An ECG, enzymes, and symptoms confirmed the diagnosis of AMI. Data obtained from medical files included age, gender, medical history, blood pressure, heart rate, myocardial infarction (MI) type and left ventricular ejection fraction (LVEF). The use of medications at admission and discharge was also