

Case Study of a Diabetes Mellitus Patient

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ABSTRACT

The patient Mrs. Wei was a 44 years old woman with diabetes mellitus. According to her and her husband's statements she had suffered from vomiting for several times during Feb. 22 night, and suffered from shortness of breath, palpitation since Feb. 23 morning. So she came to the emergency room of Taipei Medical College Hospital at Feb. 23 midnight, and admitted on Feb. 24, 1988.

During her hospitalization, she had many health problems. Those were as follows :

1. Breathing pattern alteration related to metabolic acidosis.
2. Fluid volume deficiency related to hyperosmotic diuresis and vomiting.
3. Potential for infection related to the CVP and Foley catheter indwelling, high stress and dehydration.
4. Sleep pattern disturbance related to SOB, palpitation and psychologic stress.
5. constipation related to fluid deficiency, low fibrious food and irregular defecation.
6. Moderate anxiety related to concern about body weight loss, DM diagnosis and hospitalization.
7. Coping ineffectiveness related to low income, need a long-term follow up and coping skill is poor.
8. Knowledge deficiency regarding self-injection of insulin.
9. Knowledge deficiency regarding the quantitative diabetic diet.
10. Knowledge deficiency regarding planned exercise as an intervention for DM.
11. Knowledge deficiency regarding the prevention of insulin therapy complications.

This patient went through medical care, her condition was reverted on Feb.

27, and discharged on Mar. 9. When she was discharged, her WBC was 10,561, urine sugar(+ + +), urine ketone body (-), blood sugar 221mg%, blood gas was normal, and electrolytes were also normal.

Key words: diabetes mellitus, Ketoacidosis, insulin-dependent.

CASE INTRODUCTION

Name : Mrs. Wei, × ×

Sex : Female

Age : 44

Natives : Taiwan

Occupation : Cleaner and housewife

Education level : Vocational school of Business

Religion : Taoism

Date of admission : Feb. 24, 1988

Diagnosis : Diabetic ketoacidosis

This patient had suffered from shortness of breath (SOB) and palpitation since Feb. 23. According to her and her husband's statements, she had suffered from vomiting for several times from Feb. 22 night to Feb. 23 morning. She went to a local clinic for management. Several hours after coming back from local clinic, she started to suffer from SOB and palpitation, so she came to our Emergency Room at Feb. 23 midnight. She was rushed to our Emergency Room gasping for air. Her skin was hot, tongue and oral mucous membranes were red and dry, heart rate was 132/min, and appeared Kussmaul's respiration.

At our Emergency Room, Oxygen 2L/min was inhaled and CBC, BUN, Na, K, ABG, Blood sugar, EKG, U/A had been checked and the results revealed as: WBC 33,101, blood sugar 432 mg%, U/A sugar(+ + + +), Ketone(+ + + +) and appear metabolic acidosis. The patient was diagnosed as DKA with infection, and was sent to ICU for further man-

agement. In ICU, our management were:

1. NPO and on N-G tube
2. On CVP with 0.45% Normal saline 1 bottle
3. On Foley catheter
4. Peripheral line with aa NS 6 bottle + KCl 15mEq/L + RI IOU (IV) QD
5. RI IOU IV push st.
6. Sodium bicarbonate 8 amp IV push st.
7. Cephamezine 1 gm (IV) Q6H. and Nebcin 80 mg (IV) Q12H.

This patient went through medical treatment and her condition was reverted on Feb. 27. Her blood gas level was closed to normal range and blood sugar decreased to 247 mg%. Therefore on Feb. 28 she was transferred to medical ward, and discharged on Mar. 9. When she was discharged, her WBC was 10,561, urine sugar (+ + +), urine ketone body (-), blood gas was normal, blood sugar 221 mg% and electrolytes were also normal.

HISTORY TAKING AND DATA COLLECTION

I. HISTORY TAKING

Use a nursing model -- functional health pattern

1. Health perception, health management pattern

Mrs. Wei said she had a good health condition until recently appeared body weight loss, but she didn't know what happen. She appeared anxious during the admission assessment. This was noted in her difficulty for maintaining eye

contact and frequent toe tapping. She was concerned about her body weight loss, general malaise, and current hospitalization for a diabetes. Her reasons for seeking health care were weakness, vomiting, shortness of breath, and palpitation.

She has no habit of smoking and drinking. She has also no food and drug allergy record.

2. Nutrition-metabolic Pattern

When this patient was in Emergency Room, she had a typical signs of dehydration -- flushed dry skin, poor skin turgor, dry mucous membranes, sunken eyeballs, decreased urine output, and weak, rapid and thready pulses. Her arterial blood pH was low (pH 7.123) and a low serum bicarbonate level, therefore fluids replacement was given.

According to the patient's statement, she didn't have a good eating behavior, for example, she had the experience of eating 8 eggs in one day. She didn't know how to plan the diet. She always eats a lot. She likes to eat carbohydrates and sweet dessert.

Her body height is 156 cm, actual weight is 55 Kg, but IBW is 51 Kg. She said that her weight lost from 78 Kg to 60 Kg in a few months two years ago, recently, her body weight lost from 60 Kg to 55 Kg. She would be arranged to administer insulin and the complete diet instruction was associated with this treatment.

3. Elimination Pattern

When admitted, she appeared oliguria, and hadn't stool passage for three days. Her bowel function was changed two weeks ago, she applied glycerin self enema to help maintaining regular bowel habits, sometimes took the laxatives. Usually, her stool was hard, with difficult

defecation.

Her urination was changed two days ago, the beginning was polyuria, but later became oliguria, her husband reported her fluid intake was inadequate due to her lethargy.

Her urine test showed urine sugar (+ + + +), ketone body (+ + + +).

4. Activity-exercise Pattern

During lunar new year period, she always felt tired, but she didn't keep it in mind. She worked very hard and hadn't any diversional activity or exercise. She didn't know a program of planned exercise could greatly benefit for herself, she just worked hard every day without exercise and leisure, always felt stress and tension. Her treatment needed the combined diet, exercise and insulin administration, but she said, she didn't like and had no enough time to do exercise.

5. Sleep-rest Pattern

Two to three days before she was sick, her sleep pattern was changed, became insomnia, and fatigue was a frequent symptom. When she was admitted, she appeared lethargic, tired, ptosis, lack of expression, and dark circles under eyes.

Usually, her bedtime was 12 pm to 5:30 am, and had a good sleep pattern.

6. Cognitive-perceptual pattern

She was graduated from vocational school of business. Her common sense is good, we had a good communication, but her diabetes knowledge is deficient, she didn't know how to take proper food? How to do exercise? How to self-administer insulin and how to prevent the complications? This patient was a insulin-

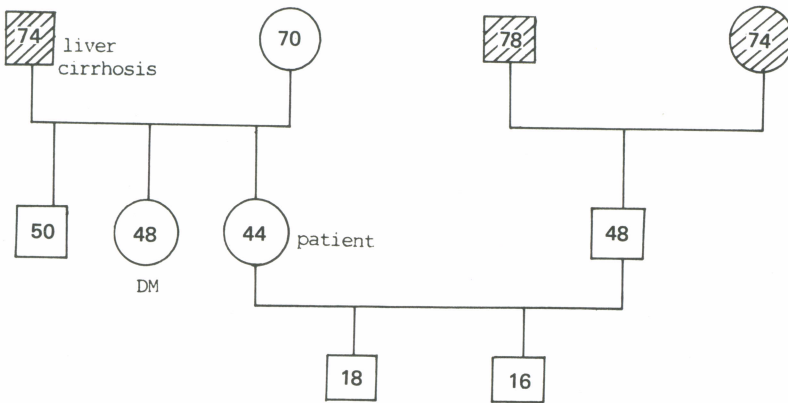


Fig. 1. The family history

dependent, she must be self-monitored blood sugar and urine sugar to determine insulin dosage.

7. Self perception, self concept pattern

She was satisfied with herself, when her body weight dropped from 78 kg to 60 kg, and she thought that's good. But, currently her body weight was dropping continuously to 55 kg, so she began to concern her health condition, asked many questions, appeared moderate anxiety, and afraid complications will be induced.

8. Role-relationship pattern

Their family is a core family, she lives together with her husband and two children. The family members have a good relationship, take care each others. Her family history is as above (see figure 1).

Her father died ten years ago, when he was 64 years old, due to liver cirrhosis. Her mother is healthy, no any health problem. Her sister had DM history too, but never accept regular treatment. Her husband and children have a good health conditions.

She has some friends and had a good interaction, Sometimes, she went to visit her neighbors, join some social activity.

9. Sexuality-reproductive pattern

She reported her menstruation cycle was regular, and may be into menopause, but didn't appear any uncomfortable symptoms of menopause.

She and her husband had a normal sexual life.

10. Coping-stress tolerance pattern

She reported before lunar new year, she and her husband were very busy, because in our country, we had a custom to clean our house, and she was a cleaner, so her working time was as long as 16 hours one day, When she came back home, she must to do many things, because she also was a housewife, she felt stressful in that period.

When she was admitted, her mother came to hospital and took care of her. Her mother and husband were her great support sources.

She had no any insurance, she also con-

cerned the hospitalized expense.

II. Value-belief pattern

She had a traditional point of view, she believed a woman need to workhard, so when she had some discomfortable feeling, she still continued to work.

She was a Taoist, sometimes she went to pray for God's mercy.

Her mother was a Taoist too, she always sent her money to the temple. She believed that good behavior could be able to maintain self health. Her mother told her, her sicknesss was due to having not send money to the temple, so she would plan to pray for God's mercy and send money to the temple, when she was discharged.

II. PHYSICAL ASSESSMENT

When admitted, she appeared hyperglycemia and metabolic acidosis. Her physical assessment was as following:

General appearance: acute ill looking, flushing face was noted.

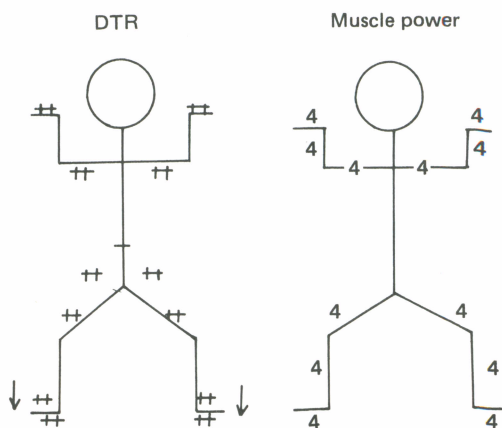
Conscious: clear but drowsy

Vital signs: BP 180/90, Temp 37,2°C, Pulse 132/min, Resp 28/min

Skin: hot and flushed, dry

Head: no trauma, nor deformity

Neurological exam:



III. LABORATORY DATA

Finding		Date	2/24	25	26	27	28	3/7
Blood Routine	Hb		13.2	---	10.4	11.4	11.5	9.8
	Ht		42.6	---	32.6	37.8	39.6	30.8
	RBC		443	---	374	418	397	348
	WBC		33,101	25,721	14,466	12,944	11,915	10,561
	Seg		90	85	88	83	72	---
	Lymp		9	9	9	15	24	15
	Mono		1	0	0	1	4	2
	Band		0	6	3	1	0	---
Platelet		16.2	--	--	--	17.4	---	
Urine Routine	S.G		1.018					
	pH		5.0					
	Sugar		1.0	++++	+++	+++	++	+++
	Protein		100					
	Ketone body		++++					
	O.B		++					

Finding		Date	2/24	25	26	27	28	3/7
			RBC	5-6				
	WBC or pus cells	15-18						
	Epith. cells	2-3						
Blood Gas	pH	7.101	7.211	7.399	7.511			
	PCO ₂	7.8	12.4	20.2	26.2			
	PO ₂	133.4	136.6	143.1	141.8			
	HCO ₃	2.4	4.4	12.4	21.0			
	ABE	-26.8	-23.1	-10.7	-0.6			
	SAT	97.4	97.9	98.9	99.2			
Bio-chemical	Sugar	AC	432	379	201	247	125	221
		PC						313
	A/G		3.1/3.8					
	GOT		7					
	GPT		6					
	Cholesterol		170					
	TG		145					
	Lactate		9					
	Ketone		+					
	BUN		21.6					
	Creatinine		1.6					
	Uric acid		9.7					
	Na		130	139	138	136	133	
	K		3.9	4.6	3.7	2.4	3.1	
Cl		103	109	104	109	108		

Throat: pus was noted
 Tongue and mucous membrane: red and dry
 Eyes: pupil was isocoria, L/R: + / +, sclera not
 icteric. conjunctiva not anemia
 Neck: supple
 LAP (-)
 JVE (-)

Chest: symmetrical expansion
 B.S: clear, no rale, no wheezing, but appear Kus-
 maul's respiration
 H.S: tachycardia, no murmur
 EKG: sinus tachycardia
 Abdomen: soft and flat, no tenderness area,
 bowel sound was normal active

V. PROGRESS AND MAJOR MANAGEMENT

	Admitted 2/24	25	26	27	28	29	3/2	4	7	Discharged 9
Blood sugar	432	379	201	247	125	--	182/351	309/310	221/313	
Urine sugar	++++	+++	+++	+++	++	+++	+++	+++	+++	+++
WBC	33,101	25,721	14,466	12,944	11,915	--	--	--	10,561	--
Diet	NPO	NPO	NPO				Soft diet 1500 Kcal/day)			
Insulin Therapy		RI 60 U IV drip RI 12 U H QID		RI 20 U IV drip RI 8 U H QID		NPH 1 6U H AM RI 8 U H QID		NPH 20 U H AM RI 10 U		
Antibiotics			Cefamezine 1gm Q6h IV Netromycin 150 mg Q 12 H IV				Kefl ex 1 TID Netromycin 150 mg Q 12 h IV			
ABG (pH)	7.101	7.211	7.399	7.511						
CVP	0	0	3.5	3.5						
Electrolytes & Fluids Replacement	NaHCO ₃ 8 amp KCl 90 mEq 6000 ml	NaHCO ₃ 4 amp -- 5000 ml	--	KCl 60 mEq 4000 ml				Oral intake		
N-G Tube		indwelling		removed						
Foley catheter		indwelling		removed						

Extremity: free movable, no pitting edema, no clubbing fingers, and no cyanosis

G-U: grossly normal, no particular local findings

IV. PATHOLOGIC DATA

Mrs. Wei had serious metabolic acidosis, this disturbance results from insulin shortage and brings on a build up of ketone bodies. This build up, in turn, causes a dangerous drop in blood pH. Her blood pH was subnormal at 7.101, serum bicarbonate was low, it was 2.4 mEq/L.

Mrs. Wei also had a moderately elevated serum acetone level, signifying a build up of blood-acidifying ketone bodies. Her hematocrit had risen to 44.6% -- a predictable development when fluid loss caused hemoconcentration. Her urine sugar was positive (++++) and acetone was detectable in the urine.

From above history taking and several data, we can identify Mrs. Wei's health problems (nursing diagnosis) are as follows:

1. Breathing pattern alteration related to metabolic acidosis.
2. Fluid volume deficiency related to hyperosmotic diuresis and vomiting.

3. Potential for infection related to the CVP and Foley catheter indwelling, high stress and dehydration.
4. Sleep pattern disturbance related to SOB, palpitation and psychologic stress.
5. Constipation related to fluid deficiency, low fibrous food and irregular defecation.
6. Moderate anxiety related to concern about body weight loss, DM diagnosis and hospitalization.
7. Coping ineffectiveness related to low income, need a long-term follow up and coping skill is poor.
8. Knowledge deficiency regarding self-injection of insulin.
9. Knowledge deficiency regarding the quantitative diabetic diet.
10. Knowledge deficiency regarding planned exercise as an intervention for DM.
11. Knowledge deficiency regarding the prevention of insulin therapy complications.

SUMMARY

After almost a week under our care, Mrs.

NURSING DIAGNOSIS AND INTERVENTION

NURSING DIAGNOSIS/ETIOLOGY	GOALS	INTERVENTION	EVALUATION
Breathing pattern alteration/metabolic acidosis	Recover to normal breathing pattern & respiration rate in 2 days	<ol style="list-style-type: none"> 1. O₂ inhalation 2 L/min. 2. Semi-Fowler's position. 3. Provide psychologic support & caring. 4. Correct the acidosis, by order give sodium bicarbonate 8 Amp(IV)^(1,2). 5. By order give RI 10 U. (H) or (IV) & QID⁽²⁾. 6. Keep close observation. 	<p>At 2/25, her respiration rate has been decreased to 24/min. No air hunger.</p>
Fluid volume deficit/hyperosmotic diuresis. vomiting.	<ol style="list-style-type: none"> 1. CVP increased to normal range. 2. Blood sugar decreased. 3. No dehydration. 	<ol style="list-style-type: none"> 1. Assess symptoms & signs of dehydration. 2. By order give <ul style="list-style-type: none"> * 0.45% NS 6 bottle + KCL aa 15 mEq + RI aa 10 U (IV) drip. * Fluid challenge 300 ml from CVP line St. and P. r. n. 3. Accurate intake & output must be maintained to prevent shock, dehydration or overhydration.^(1,2) 4. Daily body weight should be obtained and recorded. 5. Provided mouth care & use petroleum jelly to dry, chapped lips. 	<ol style="list-style-type: none"> 1. At 2/26, her CVP was increased to 3.5cmH₂O. 2. At 2/26, her blood sugar was decreased to 201 mg%. 3. No dehydration or over hydration.
Moderate anxiety/concerned about her body weight loss, DM diagnosis & hospitalization.	<ol style="list-style-type: none"> 1. Can expression her perception. 2. The anxiety level is decrease. 	<ol style="list-style-type: none"> 1. Assess the anxiety level. 2. Encourage verbalized her concerned matters and listening. 3. Help her to search the stressors of anxiety⁽³⁾. 4. Help her to reduce the stressors⁽³⁾. 5. Provide the information about DM disease⁽⁴⁾. 6. Teach the relaxation technique^(5,6). 	<p>When her condition was better, her anxiety level was decrease, she can expression her feeling.</p>
Sleep pattern disturbance/SOB, palpitation & psychologic stress.	<p>Have a good sleep at night.</p>	<ol style="list-style-type: none"> 1. Arrange the comfortable position. 2. Oxygen inhalation. 3. Control the blood sugar. 4. Management the metabolic acidosis. 5. Provide psychologic support & assurance. 6. Provide a hot bath. 	<p>At 2/26, when her acidosis was correct, her respiration rate was normal, she had a good sleep at night.</p>

(continue)

NURSING DIAGNOSIS/ETIOLOGY	GOALS	INTERVENTION	EVALUATION
Constipation/fluid deficit, low fibrous food & irregular defecation.	Regular bowel elimination daily.	<ol style="list-style-type: none"> 1. Increase fluid intake, 3000 ml/day. 2. When she can by oral to eating, take more fibrous vegetable & fruits. 3. Encourage early ambulation & doing exercise. 4. Maintain regular defecation. 5. By order give glycerine enema. 	At 2/28, When she transfer to medical ward, she bowel movement some hard stool.
Potential for infection/CVP & Foley catheter indwelling, high stress & dehydration.	Infection free.	<ol style="list-style-type: none"> 1. Provide CVP inserted site care, QD. 2. Provide Foley care, BID. 3. Provide mouth care, TID. 4. Replacement adequate fluids. 5. Protect the patient, avoid to contact the infectious patients. 6. Relief the stress⁽⁶⁾. 	During her hospitalization period, she was infection free.
Knowledge deficiency regarding self-injection of insulin.	Could preparing insulin & giving injections to herself.	<ol style="list-style-type: none"> 1. Teach her about concentration & storage of insulin^(6,7,8,9). 2. Demonstrate proper mixing of insulin. 3. Demonstrate how to withdraw the insulin from the clear & cloudy vial. 4. Instruction about site selection and rotation⁽¹⁰⁾. 5. Demonstrate the injection technique. 	She was lack confidence, her husband will practice for her.
Knowledge deficiency regarding the quantitative DM diet.	<ol style="list-style-type: none"> 1. Can be accurately to measure or weigh foods. 2. Maintain her body weight. 	<ol style="list-style-type: none"> 1. Teach how to measure or weigh foods until portion size can be accurately estimated^(11,12,13,14). 2. Vary the different exchanges so that the daily diet is interesting and palatable. 3. Eat all of the food prescribed and if unable to finish a meal, always compensate for the uneaten portion of food by eating a comparable amount of calories and nutrients as a snack later in the day. 4. According her insulin therapy (NPH 20 U + RI 10 U H at AM) eat meals and snacks at regular times as^(13,14). 	She can understand the teaching content, but I afraid she may be noncompliance, because she had a poor eating behavior.

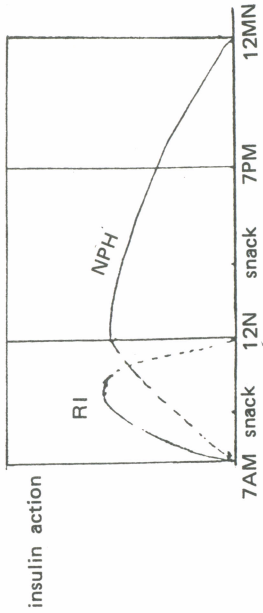
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EVALUATION

INTERVENTION

GOALS

NURSING DIAGNOSIS/ETIOLOGY



5. If a meal is delayed, drink a glass of milk or eat a cracker while waiting in order to avoid an insulin reaction.
6. Take precautions to avoid hypoglycemic reactions during periods of prolonged or unusual exercise by increasing calories intake as need⁽¹⁵⁾.
7. Depend her ethnic, religious and background, and her prescribes to design diet, as following.

	Breakfast	Snack	Lunch	Snack	Supper	Snack
Milk						1
Rice	2	1	3	1	3	
Meat/Fish	2		2		2	
Fruit			1		1	

Knowledge deficiency regarding planned exercise as an intervention for DM. Exercise a minimum of 3 times every week.

Instructing her concerning exercise include: She can understand about teaching content, but I am afraid she may be non-compliance.

1. While the health care team is planning the intervention regimen, she should follow a normal activity schedule, so that diet and insulin dosage are in compliance.

(continue)

NURSING DIAGNOSIS/ETIOLOGY	GOALS	INTERVENTION	EVALUATION
<p>Knowledge deficiency regarding the prevention of insulin therapy complications .</p>	<p>1. Understand the insulin therapy may be complicated the hypoglycemia, tissue hypertrophy, atrophy or both at the site of injection. 2. Could be prevent the above complications.</p>	<p>1. Prevention the hypoglycemia or insulin shock: <ul style="list-style-type: none"> • Avoid an overdose of insulin, late or skipped meals or overzealous exercise, to prevent hypoglycemic reactions^(1,2,15,17,18). • Instruct her carry sugar cubes or candy at all times in order to guard against insulin shock when away from home^(6,15). • When she experience altered consciousness, tachycardia or increased perspiration, immediately to eat sugar cubes or candy. <p>2. Prevention the tissue hypertrophy or atrophy: <ul style="list-style-type: none"> • Inject pure human insulin into atrophic area⁽⁶⁾. • Avoid affected areas with good rotation plan⁽¹⁰⁾. • Use insulin at room temperature⁽⁶⁾. • Inject insulin into the space between fat and muscle. </p> </p>	<p>She can understand about teaching content, I think she should be prevent the hypoglycemia, tissue hypertrophy or atrophy.</p>
<p>Coping ineffective/low income, out off control, need a long-term follow up, coping skill is poor.</p>	<p>Successful adaptation with DM.</p>	<p>1. To respond positively to patient's needs⁽³⁾. 2. To help reduce stress and promote control⁽³⁾. 3. Teach stress-management techniques⁽⁶⁾. 4. To help her to seek the social resources. 5. To help her to develop the coping skills⁽¹⁹⁾. 6. To support self-control and the acceptance of responsibility for personal actions in DM management.</p>	<p>She expressed control of her health and related behavior, and feel a sense of control in her life.</p>
		<p>balance with the regular activity level⁽¹⁵⁾. 2. Exercise to 60-75% of the maximum heart rate for her age. This is determined by $(220-44) \times 0.6$ or 0.7. Thus, she could exercise to a heart rates of 105-132 beats/min⁽¹⁶⁾. 3. Exercise for a period of 20-45 minutes at the desired heart rate^(15,16). 4. Exercise a minimum of three times per week. 5. Kinds of exercise are jogging, bicycling, swimming, dancing and walking⁽¹⁶⁾.</p>	

Wei finally began her steady climb to full recovery. By the fifth day, she was able to take food, and her physician ordered a full 1500 calories diabetic diet. Her insulin dosage was adjusted every day in accordance with fluctuations in her calories intake and blood sugar level. By the two weeks Mrs. Wei's condition had improved enough that she could be discharged, so she was discharged on Mar. 9, 1988.

Coping with DM life was difficult, in order to prevent the patient noncompliance with diet, exercise and medications, education and follow up care are important. So I arranged Mrs. Wei to attend the DM group therapy, I hope the patient could fully understand why and how to adjust her insulin dosages at home, and to understand the relationship of diet, exercise, and insulin to blood sugar levels.

REFERENCES

1. BUTTS DE: Fluid and electrolyte disorders associated with diabetic ketoacidosis and hyperglycemic hyperosmolar nonketotic coma. *Nurs Clin North Am*, 22(4) · , 827-836, 1987.
2. WALESKY ME: Diabetic ketoacidosis. *Am J Nurs*, 872-874, May, 1978.
3. ARMSTRONG N: Coping with diabetes mellitus. *Nurs Clin North Am*. 22(3) · , 559-568, 1987.
4. DAI TY: Diabetes Mellitus. Taipei, Health World Inc. p.10-13, 1983.
5. STEPHENSON CA: Stress in critically ill patients. *Am J Nurs*, 1806-1809, Nov. 1977.
6. LU MS: New Medical-Surgical Nursing. Taipei, Fa-Shing Co. 8th ed p.26-17, 1987.
7. ROBERTSON C: When the patient is also a diabetic. *RN*, 50(7): 31-35, 1987.
8. DEBRA HJ et al: Intensive conventional insulin therapy. *Am J Nurs*, 1251-1255, Nov. 1986.
9. HUGHES B: Diabetes management -- the time is right for tight glucose control. *Nursing*, 17(5) · , 63-64, 1987.
10. FONVILLE AM: Teaching patients to rotate injection sites. *Am J Nurs*. 880-883, May, 1978.
11. VINIK A et al: Nutritional recommendations and principles for individuals with diabetes mellitus. Alexandria, Va: American Diabetes Association, 1986.
12. BATES S & AHERN JA: Tight control -- what does it mean? *Am J Nurs*. 1256-1258, Nov. 1986.
13. BYRNES CA: What's new in the diabetic diet. *Nursing*, 17(8) · , 58-59, 1987.
14. HEINS J et al: The new look in diabetic diets. *Am J Nurs*. 196-198, Feb, 1987.
15. LUCKMANN J & SDRENSEN KC: Medical-surgical Nursing -- a psychophysiologic approach. Philadelphia, W. B. Saunders Co. 3rd ed. p.1399-1437, 1987.
16. HUNG JD: The nutrition and exercise therapy of DM patient. *Clin Med*. 17(4) · , 368-377, 1986.
17. PATRICIAS SB: Confusing concepts -- is it diabetic shock or diabetic coma? *Nursing*, 13(6) · , 33-41, 1983.
18. McADAMS RC & BIRMINGHAM D: When diabetes races out of control. *RN*, 49(5) · , 46-52, 1986.
19. CONNELLY CE: Self-care and the chronically ill patient. *Nurs Clin North Am*. 22(3) · , 621-628, 1987.

一位糖尿病人的個案報告

盧美秀

本篇係病患魏女士住院期間的醫療及護理過程報告。

魏女士 44 歲，因糖尿病合併酸中毒及感染而住院。入院前曾經嘔吐好幾次。入院時呼吸短促，心悸厲害，有嚴重脫水現象；當時的實驗室檢查數據為：白血球 33.101，血糖 432mg%，血液 pH 值 7.123，尿糖(++++)，尿酸體(++++)。

魏女士係在 2 月 24 日住院，3 月 9 日出院，在其住院期間有下列問題：

1. 由於代謝性酸中毒導致呼吸型態改變。
2. 由於高滲透性利尿和嘔吐導致液體容積不足。
3. 由於插有中心靜脈壓導管、導尿管、脫水以及疾病的壓力，抵抗力低，致有發生潛在性感染的危險。
4. 由於呼吸短促，心悸以及疾病的壓力導致睡眠型態紊亂。
5. 由於水分不足，插放鼻胃管，進食量少以及未規律排便，導致便秘。
6. 由於體重減輕太多又被診斷為糖尿病以及需要住院治療，導致中等度焦慮。
7. 由於收入少又沒有保險以及需要長期追蹤治療，但又缺乏調適技巧，導致適應不良。
8. 對自行注射胰島素的知識不足。
9. 對糖尿病飲食之具體量化的知識不足。
10. 對如何訂定運動計劃以配合糖尿病治療之知識不足。
11. 對如何預防因注射胰島素所產生的合併症之知識不足。

魏女士經過醫護人員的積極治療和照護，住院第 5 天病況開始好轉，已能開始由口進食，呼吸也恢復正常，已無脫水現象，每晚睡眠良好，焦慮程度明顯地減低，每天都有排便，在整個住院期間皆沒有發生續發性感染。

魏女士出院前，在我們有計劃的教導下，對有關糖尿病的用藥，飲食及運動的目的和方法都能了解，不過較缺乏具體執行的動機，所以筆者在她出院之前曾多次鼓勵她參加院方所舉辦的團體指導活動，3 月 9 日出院當天她已辦妥報名手續，相信她在經過另一階段的團體指導，以及與團體成員們間彼此交換學習心得後，一定能對疾病做最好的適應。