

Final anatomical diagnosis :

1. Paraquat intoxication.
2. Diffuse alveolar hemorrhage, bilateral.
3. Acute pancreatitis.
4. Corrosive esophagitis and gastritis.
5. Mild cholestasis, liver.
6. Bilateral pleural effusion, 250C.C.
7. Generalized congestion.

Clinical summary :

This 25 year-old female took half a spoon of paraquat on June. 11, 1997 and initially received treatment in a local hospital for 3 days.

She developed vomiting, epigastralgia, sore throat, shortness of breath and odynophagia progressively during the hospitalization. On June. 14, she was found to develop jaundice, high grade fever and oliguria. However her conscious remained clear. She was then referred to our hospital on June. 15, under the impression of paraquat intoxication with secondary multi-organ failure.

In emergency room, her conscious level was clear with stable vital signs. Upon physical examination, crackles were audibly in bilateral lungs and the abdomen was distended. Laboratory data were as follows: WBC 11300, hemoglobin 12.9, platelet 146000, glucose 158, BUN 86MB CR 10.4MG%, amylase 1264U / L, bilirubin (total / direct): 9.3 / 6.5 MG%, AST 176U / L, Na 123 Meq / L, K 3.6 Meq / L, Ca 7.5 MG%, prothrombin time 21.3 /11.8, APTT > 100.

Urine paraquat level was less than 5 ppm. Due to acute renal failure, she received endoxan, prednisolone and emergent dialysis.

On June. 17, 1997, she was found lying on the ground with cyanosis, apnea, pulseless and Dilated pupils patient did not respond to CPR and she expired.

Autopsy findings :

(1) Body and external appearance :

Weight	55 Kg
Length	150 CM
Development	Moderate
Nutritional state	Moderate

(2) Body cavities :

Pleural	Serous	Right : 250 C.C.
		Left : 230 C.C.
Peritoneal	Serous	300 C.C.
Pericardial	NIL	

(3) Cardiovascular system :

Ⓐ Greater vascular structures	Normal
Ⓑ Heart	
General	Unremarkable
Weight	240 G
Left ventricle	1.8 CM
Tricuspid valve	10 CM
Mitral valve	7 CM
Right ventricle	1 CM
Pulmonary	7 CM
Aortic	5 CM

Cardiovascular system	Gross	Microscopic Diagnosis
Valves	Unremarkable	Unremarkable
Epicardium	Unremarkable	Unremarkable
Myocardium	Mild hypertrophy	Unremarkable
Endocardium	Unremarkable	Unremarkable
Coronary arteries	Unremarkable	Unremarkable

(4) Respiratory system :

Respiratory system	Gross	Microscopic Diagnosis
Trachea and major bronchi	Contents :	1. Diffuse alveolar hemorrhage with pigmented hemosiderophages. 2. Focal pulmonary edema 3. Focal interstitial fibrosis.
	No excessive fluid	
Lung	Mucosa : Smooth	
	Right : 900 GM	
	Left : 850 GM	
	Diffuse hemorrhage	
Mediastinum	Thymus 3 GM	Age involuted

(5) Gastrointestinal Tract :

Gastrointestinal Tract	Gross	Microscopic Diagnosis
Pharynx	Ulceration	
Esophagus	Much necrotic debris in the lumen and ulceration	Ulceration
Stomach	Diffuse hemorrhagic patches	Erosion
Duodenum	Unremarkable	Unremarkable
Small bowel	Unremarkable	Mild autolysis
Large bowel	Unremarkable	Mild autolysis
Cecum and appendix	Unremarkable	Mild autolysis

Pancreas		
Gross	Weight	140 GM
	Unremarkable	
Microscopic Diagnosis	1. Diffuse dilated acini with pink amorphous material in the lumina 2. Focal necrosis and hemorrhage.	

(6) Hepatobiliary system :

Liver		
Gross	Weight	1240 GM
	Out surface	Smooth
	Cut surface	Brown and Soft
Microscopic Diagnosis	1. Mild intracanalicular cholestasis 2. Congestion 3. Focal lymphoid aggregates	

Gallbladder, Bile ducts	Gross	Microscopic Diagnosis
	Contains greenish bile	Chronic inflammation

(7) Hematopoietic-Lymphoid system :

Hematopoietic-Lymphoid system	Gross	Microscopic Diagnosis
Spleen	Weight : 170 GM	Congestion
	Congestion	
Lymph nodes	Unremarkable	Unremarkable

(8) Urogenital system :

Urogenital system	Gross	Microscopic Diagnosis
Kidney	Right : 160 GM	Autolysis
	Left : 180GM	
Ureters	Unremarkable	Unremarkable
Bladder and urethra	Unremarkable	Unremarkable
Uterus / Ovaries	Unremarkable	Unremarkable

(9) Endocrine system :

Endocrine system	Gross	Microscopic Diagnosis
Endocrine system	Unremarkable	Unremarkable
Adrenals	Right : 3 GM	Congestion
	Left : 3 GM	

(10) Central nervous system :

Central nervous system	Gross	Microscopic Diagnosis
Brain	Weight : 1.5KG	Unremarkable
	Shape : Usual	
Leptomeninges	Translucent	
Cranial nerves	Unremarkable	
Circle of Willis	Unremarkable	
Spinal cord	Unremarkable	
Brain sections	No hemorrhage	No hemorrhage
	Nor hydrocephalus	Nor hydrocephalus

Section Taken and Labeled :

Labeled	Section Taken	Labeled	Section Taken
AA	Pituitary gland	LB1-2	Left bronchus
AB	Bone Marrow	LU	Lung, Left upper lobe
E1-2	Esophagus	LL	Lung, Left lower lobe
S1-3	Stomach	TH	Thymus
IL	Ileum	T	Trachea
CE	Cecum	RK1-4	Right kidney
CO	Colon	LK1-3	Left kidney
APP	Appendix	UB	Urinary bladder
PA 1-4	Pancreas	RO	Right adnexa
L1-2	Liver	LO	Left adnexa
GB	Gallbladder	EM	Endometrium and myometrium
SP	Spleen	CER	Cervix
AO	Aorta	RT	Right thyroid
RB1-2	Right bronchus	LT	Left thyroid
RU	Lung, Right upper lobe	RAG	Right adrenal gland
RM	Lung, Right middle lobe	LAG	Left adrenal gland
RL	Lung, Lower lobe	H1-2	Brain, Hippocampus
ST 1-2		ESO 1-3	
LN		LV 1-3	
TM		P	
D	Duodenum (缺蠟塊)		

Final Comments :

At autopsy. The significant findings were diffuse alveolar hemorrhage with focal pulmonary edema and mild interstitial fibrosis, acute pancreatitis and corrosive and esophagitis and gastritis. These features are consistent with those of paraquat intoxication. The main cause of death was due to Diffuse alveolar hemorrhage resulting in respiratory failure.