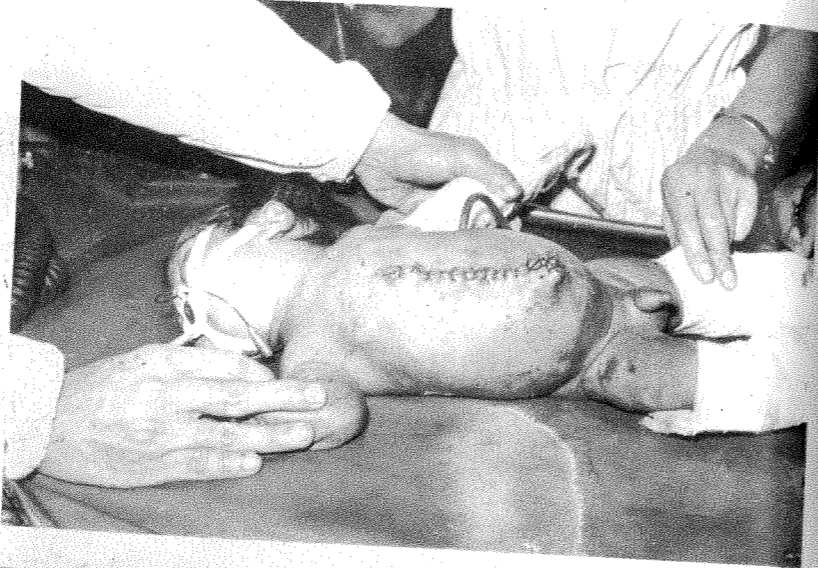
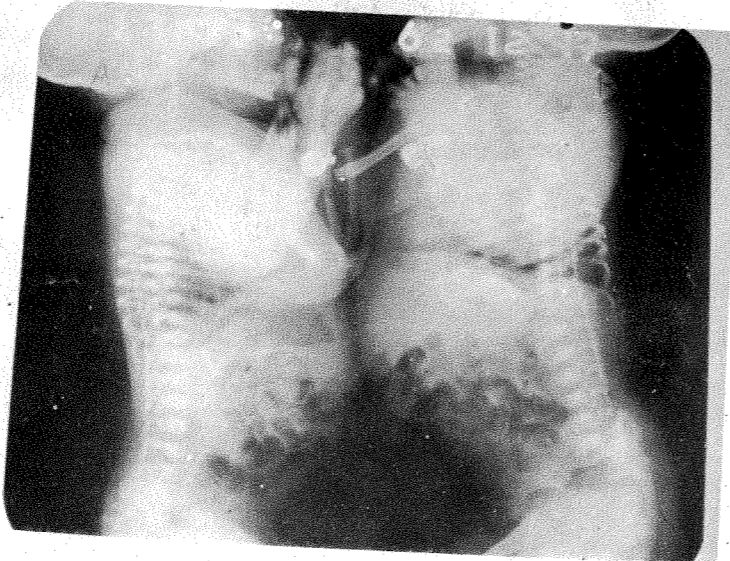


Infant B (\bar{P} operation)



Infant A (\bar{P} operation)



(Lateral view of conjoined twins)
(Lt: infant A. Rt: Infant B)

The First Operable Case of Conjoined Twins in Taiwan

Ih-Hsing Chiang, Jong-Nan Hsu, and K. H. Wu

Conjoined twins occurred in all living things. Birds, fish, reptiles, mammals and plants have been observed and reported about such twins. Mankind has no exception.

"Double monsters" spurred the curiosity of human beings long time ago. The first autopsy of conjoined twins to determine if they constituted one person or two and to discover whether they had one or two souls was performed in 1533, in the Americas. And, the first surgical separation of conjoined twins was performed successfully in 1689, which was a case of omphalopagus.

More medical knowledges enhance the understanding about the secret of conjoined twins. In 1969, Ingall, and his colleagues reported that the stress of hypoxia and hyperthermia over two hours duration acted on the blastoderma of zebra fish when primitive streak was forming. They divided 5,022 zebra fish embryonating eggs into six groups (4-8 cells, 16-32 cells, morulation blastulation, gastrulation, and control group). Maintained water of control group at 27°C and others at 34.5°C for 2 1/2 hours. Three conjoined twins were observed in 4-8 cells group, morulation group, and gastrulation group.

Another factors inducing such malformed identical twins are teratogens. There are many teratogens which have been proved in animal experiment (vitamin A, dimethyl sulfoxide, urethan, thalidomide, chlorhydrate of N, N-dimethyl-biguanide, gantrisin, rublla, radiation, butyric acid, aceton, intercurrent infection, contamination of food, exposure to insecticides and mangnese deficiency). Although, they are not susceptible to direct testing in human beings, two of three cases reported by Ingall and his coworkers had prenatal history of taking sulfisoxazole (gantrisin). Neither environmental stress nor teratogens could induce conjoined twins in any time of pregnancy. They only induce conjoined twins in early pregnancy (the third week of gestation).

Two hypotheses have been supposed as explanation for conjoined twins. They are incomplete fission of single embryos and fussion of two separate embryos. The possibility of conjoined twins that were derived by fussion of two separate embryos was suggested by Mintz who produced a chimeras by fussion of two mouse blastocysts. In human beings, 1959, Ian Aird discovered "Conjoined Chinese Twins", they had dissimilar appearance and temperament. Therefore, there was no reason for us to reject it, although, most of the conjoined twins showed isosexuality, same blood grouping, similar genetic and high incidence of situs inversus viscerum, which are evidences of monozygotic twining.

Conjoined twins occured only about 400 to 500 cases which have been documented in the medical literature. The incidence of fused twins is variable in many literatures from 1 : 33,000 to 1: 200,000 births. Aird believed that at least six operable cases per year could be expected throughout the world. 70% of human "double monsters" are thoracopagi. We have no data of percentage of omphalopagus. However, from 1689 to 1970, in 55 operated cases of conjoined twins, there were 23 cases of omphalopagus and 11 cases of thoracopagus. Female diplopagus are two times as

frequent in human beings and animals. The reason of

prominent female incidence is still unknown.

REPORT of a CASE

In Taichung, on November 19, 1973, omphalopagus twins were born by normal delivery to Mrs. Lee, aged 22 years, gravida II, para I, and Mr. Liau, aged 30. There was family history of separated twins in maternal aunt.

The babies arrived at our hospital accompanied with an unligated cord and a placenta carried by a midwife whom delieved these twins. She did not know what to do because so awful of what existed on the twins. Ligation of cord was done in our hospital. As described by the midwife, they were no spontaneous respiration after delivery. Managements of first aid were done Immediately. A few minutes later, they breathed spontaneously.

Their combined weight was 5500 gm. All the infants are male and shared a single placenta (weight, about 1000 gm) with a cord contained five vessels. The site of union extending form the xyphoid process to the level of umbilicus, with 6.5 cm in length and 25.5 cm in circumference. The face of infant A was cyanotic, but turned to normal color in a few days. The respiratory rates were 48/min in infant A and 44/min in infant B. Both were regular in rhythm. The heart rates were 100/min in infant A and 110/min in infant B. No murmur was audible in both infants. The abdomens were soft. Both livers were palpable and about 1 fb below each right costal margin but hard to detect whether they bridged or not.

Blood grouping of both infants are A type. Hemogram and liver function test of both infants were within normal limit.

Methylene blue test: On the second day of admission, 20cc of 1% methylene blue was given through naso-gastric tube to infant B. About 4 hours later, passage of methylene blue stained stool was noted. As another 2 hours passed by, methylene blue stained urine was noted in the diaper of infant B. However, there was no methylene blue

stain in the stool and urine of infant A at all.

Radiologic studies: A lateral film of the conjoined twins was taken on December 19, 1973, which revealed tissue bridge extended from the xyphoid process to umbilical portion. There was no evidence of liver bridge but the possibility of a common liver could not be excluded. According to the intestinal gas shadows, we did not know whether they had intestinal communication or not. Therefore, 20cc of 60% urografin was given to infant B through naso-gastric tube for studying G-I series on December 23, 1973. No intestinal communication was demonstrated in this film but a little herniation of intestine through the bridge to infant A.

Intravenous cholangiography was performed on December 27, 1973, January 3, 1974, and January 5, 1974. Both infants were injected with 5cc, 8cc, and 10cc of 60% biligradin respectively. No matter how fast or late we took the films, there were no shadows of gall bladder or biliary tract, except visualization of both pelvocalycine systems and vesicular bladders.

Electrocardiographic studies: December 19, 1973, electrocardiogram was performed. Infant A's auricular rate was 107/min, ventricular rate was 107/min. R/S in $V_1 > 2$, R/S in $V_6 < 1$, large QRS in V_{1-4} . Biventricular hypertrophy was suggested. Infant B's auricular rate was 107/min. Ventricular rate was 107/min. The P-R interval was 0.11 second. The QRS duration was 0.04 second. Mean electrical QRS axis was $+170^\circ$. All tracings were considered to be within normal limits for this 3 days old infant.

Another electrocardiogram was performed on January 5, 1974. Infant A's auricular rate was 150/min. Ventricular rate was 150/min. The P-R interval was 0.10 second. The QRS interval was 0.05 second. The mean electrical QRS axis was $+120^\circ$. R/S in $V_1 > 2$, R/S in $V_6 < 1$, large QRS in right precordial leads. These also suggest probable biventricular hypertrophy, esp. the right. Infant B's ECG

was still considered to be within normal limit.

Surgical findings: Surgical separation was performed on January 10, 1974. Only the livers were found to share a common bridge which measured 4.5 by 4 cm. portal and hepatic veins were in normal positions. The umbilical vessels diverged to enter their respective livers only a few centimeters before they entered the hepatic parenchyma. Infant B's small intestine was partially herniated to infant A's abdominal cavity. Infant A had malrotation of large intestine with floating ascending colon and appendix in the midline of the abdominal cavity and fixed descending colon in the left portion of the abdominal cavity. There were intact gall bladders of each infant. Each infant was left with a gastrostomy.

Postoperative course: Vomiting and abdominal distention were noted in infant A and radiologic finding revealed mechanical ileus. Surgical correction was performed on January 24, 1974. However, vomiting and abdominal distention still persisted. Finally, malnutrition, acidosis, sepsis and D.I.C. developed subsequently and he died on January 30, 1974. Infant B lives well after surgical separation and develops normally.

The result of infant A's autopsy had not been announced when I finished this report.

SUMMARY

This is a first operable case of conjoined twins in Taiwan. They are monozygotic twinning in male sex. There is no situs inversus viscerum. Only the livers were shared a common bridge.

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談新醫師法 與 醫藥人員資格檢定考試

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整理：莊峻鏞



院長 各位先生、各位同學，今天有機會能和諸位見面，覺得非常高興。我今天想與各位同學談談有關新醫師法和醫藥人員資格檢定考試的問題。在我國現在醫政均未上軌道的時候，醫學院的學生將來不論在國內服務，或者出國深造，都必然會遭遇到許多困擾。若醫政藥政不上軌道，這種困擾仍舊是無法消除的。

關於醫師方面，中華民國憲法於民國三十六年公佈實施後，醫師法乃跟著確立。憲法第八十五條規定，專門人才、技術人才與教育人員必須要經過國家考試及格才可担任。醫師屬專門技術人才，故必須參加考試。在憲法公佈之前，醫師、藥劑師、牙醫師不必經國家考試，而由各地方政府直發給證書。憲法公佈後，醫師之職業才有法律上之保障。憲法規定在中華民國行醫之醫師必須具備四個條件：(一)在有關之大學或醫學院畢業(二)高等考試及格。(三)領有國家發給之證書(四)必須加入醫師公會。若不按照上列規定，則將被視為密醫，要遭受取締。實際上，政府一直沒有按照憲法所判定之規條切實執行，因為癥結太多。

在憲法實施前，行政院通令全國：凡是過去由淪陷區或地方政府所發給之執照必須繳還給政府，以後除了中央政府高等考試及格外，不再發給執照