H29海外臨床実習

番号	氏名	渡航先	国・地域	渡航先での受入期間
1	F. A	国立台湾大学	台湾	H30/1/8-H30/2/2
2	F. K	国立台湾大学	台湾	H30/1/8-H30/1/26

平成 29 年度岸本国際交流奨学金による海外活動実施報告書

医学部医学科　　5 年
F.A

1.概要

実習受け入れ先: National Taiwan University Hospital

診療科： Pediatrics　　2018/01/08~2018/01/19

Medical Oncology 2018/02/22~2018/02/03

台湾最高学府での教育や医療を経験できる非常に良い機会であると感じたため、国立台湾大学(NTU)への留学を決めた。国立台湾大学病院(NTUH)には 2008 年末に完成した National Taiwan University Children Hospital(NTUCH)があるため、小児科を選択した。また阪大病院をはじめ、日本の多くの病院では診療科として設けられていない腫瘍内科でもおせわになった。

日程

診療科	Mon	Tue	Wed	Thu	Fri
第 1 週 NICU	Meeting Round 身体診察	Meeting Round 身体診察	Meeting Round 身体診察 予定帝王切開・ 新生児診察	Meeting Round 身体診察	Meeting Round 身体診察
第 2 週 小児血液・ 腫瘍	Meeting Round Lumbar puncture	Meeting Round Lumbar puncture	Meeting Round	Meeting Round Class(Pediatr ic Oncology)	Meeting Round
第 3 週 腫瘍内科	Orientation Head and Neck cancer conference	Meeting Radiotherapy planning	Lung cancer conferernce	Morbidity/mor tality conference Lung cancer	Radiotherap y class
第 4 週 腫瘍内科	Outpatient clinic(Panc reatic cancer)	Class(Breast cancer) Outpatient clinic(Lung cancer, Head and Neck cancer)	消化管腫瘍 Outpatient clinic(Lung cancer, Head and Neck cancer)	Following Clinical Trial Orgernizer	泌尿器癌

2.実習内容

NTUH は新病院、旧病院、子供病院の 3 つの建物で構成されており、さらにそれらがすべて地下 4 階まで地下通路でつながっている。規模の大きさに感銘を受けた。

2-1 Pediatrics 2018/01/08~2018/01/19

NTUCH は小児科と産婦人科だけで地上 22 階、地下 4 階を占める、大変な規模の子供病院です。病院内には遊具があったり、壁全面に絵が描かれていたり、子供たちにストレスを与えないように工夫されており、日本ではなかなか目にしないものであった。

最初の週は NICU で過ごした。繰り返しになるが、病院の規模が大きく、1 フロアすべてが、NICU であった。ここでは新生児の一連の身体診察、新生児黄疸への対応、栄養管理、ハイリスク新生児の管理で用いる機器、ECMO 等についてベッドサイドやカンファレンスで指導してもらえた。現場のやり取りは当然すべて中国語だったが、インターンの学生(7 年生)、PGY の先生、レジデントの先生が区切りごとに英語で説明しなおしてくれた。印象的であったのは回診の際にかなりの時間をかけていたことだ。各患者に対して関連する知識、技能の解説を、ベッドサイドにてディスカッション形式で行っており、非常に勉強になった。家族の方への説明にも時間をかけ真摯に対応していた。

2 週目は小児血液・腫瘍内科病棟でお世話になった。もっとも印象的なのは病棟中を子供が走り回っていたことだ。それもナースステーションや医師詰所を含めてである。疾患の性質上、つらい治療生活を過ごす子や予後の厳しい子供が多いなか、非常に明るい病棟であったことが強く印象に残っている。またつらい手技、治療にそれぞれポイントが設定され、そのポイントがたまれば景品がもらえるシステムをとっており、実際私がいた期間に、大きな望遠鏡をもらった子がいた。これは非常にいいシステムだと感じた。日本でもこのようなシステムがあり、これが一般に知られていれば、景品を寄付したい人も大勢でてくるだろう。その病棟で経験した患者さんは、神経膠腫、ALL、AML、GVHD、脳幹腫瘍、横紋筋肉腫、血球貪食症候群など多岐にわたった。

2-2 Medical Oncology 2018/02/22~2018/02/03

台湾では日本と同様に肺癌、大腸癌、肝癌の患者さんが多い一方で、頭頸部腫瘍が非常に多いという特徴があった。日本ではまれな癌であるが、Betel Nuts という東アジアの国々でよく見られる発がん性の嗜好品や、塩蔵魚の摂取が要因であるそうだ。実際、私がいた病棟の半分以上が頭頸部癌の患者さんであった。

各癌の授業と、病棟業務、外来の見学が主な実習内容であったが、1 日だけ臨床試験のオーガナイザーの薬剤師さんに付いて、臨床試験の実際を見学させてもらった。

病院の中の台湾と日本の違いに触れた 1 月であった。まず Nurse や Nurse Practitioner と医師の距離が非常に近いと感じた。Nurse Practitioner が電子カルテの記入を行っており、抗癌剤や医学英語に精通していたことには驚きました。医療制度としては、台湾は患者さんが医師を指名できる制度をとっている。誰でも平等に高レベルな診療を受けること

が出来る一方で、非常に非効率であると感じた。医学生に関しては、国立台湾大学医学部では、専門分野の勉強の初めから、英語を交えて勉強する。基本的には中国語で行うが、スライドは英語で書かれていたり、症例に関して英語でのプレゼン、ディベートが義務づけられていたりする。電子カルテも医療情報は全て英語で記載されている。そのため学生や医師にとって自然と医学英語へのハードルが低くなっており、情報収集及びEBMの実践の上で、非常に有利であると感じた。

3. 成果・今後の抱負

ありきたりだが、日本では当たり前のことが海外ではそうではなく、逆もまた然りであるということを実感した。自分と違う国、分野、診療科のことにもアンテナを張っておかないと気付かないことが多く存在するのだろうと感じた。また様々な国からの医学生や台湾の学生、先生方、スタッフの方々と過ごし、医学や英語への強いモチベーションを得ることができたことが最大の収穫と考える。

4. 最後に

今回の留学に際し、多大な援助を頂いた岸本忠三先生及び岸本国際交流奨学基金の方々に心より御礼申し上げます。また留学に際し、多くの助言を頂いた医学科教育センターの和佐勝史先生、河盛段先生、並びに手続き等でお世話になった方々に、心より感謝申し上げます。

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医学部医学科 5 年

F. K

I spend three weeks in the National Taiwan University Hospital (NTUH) for my clinical elective course, under Dr. Po-Jen Yang, who is in the Gastro Intestinal Surgery. His major is Bariatric Surgery, which I have never heard in Japan. However, seeing several surgeries done by him, I thought it is very prospective and interesting field, so I would like to write report on it.

Before that, I would like to write down rough schedule of my stay in NTUH.

1/8 Introduction of the hospital and the department of Gastrointestinal Surgery

1/9 Meeting for all Surgeons, meeting for Gastrointestinal Surgeons and the ward round

1/10 Sleeve gastrectomy, Bllroth 2

1/11 Whipple's surgery for pancreatic cancer

1/12 Sleeve Gastrectomy

1/13 Visiting 鉄河観光夜市, Playing football with medical students

1/14 Visiting Taroko National Park

1/15 Sleeve Gastrectomy

1/16 Ward round

1/17 Sleeve Gastrectomy

1/18 Endoscopic Examination

1/19 laparoscopic nephrectomy, lunch and dinner with my supervisor

1/20~1/21 Visiting my friend's house in Tainan

1/22 Operation for huge abdominal tumor

1/23 Observing and knowing about post-operative pigs

1/24 Open hernia repair, Drainage of systic liver abcess

1/25 Open hepatectomy

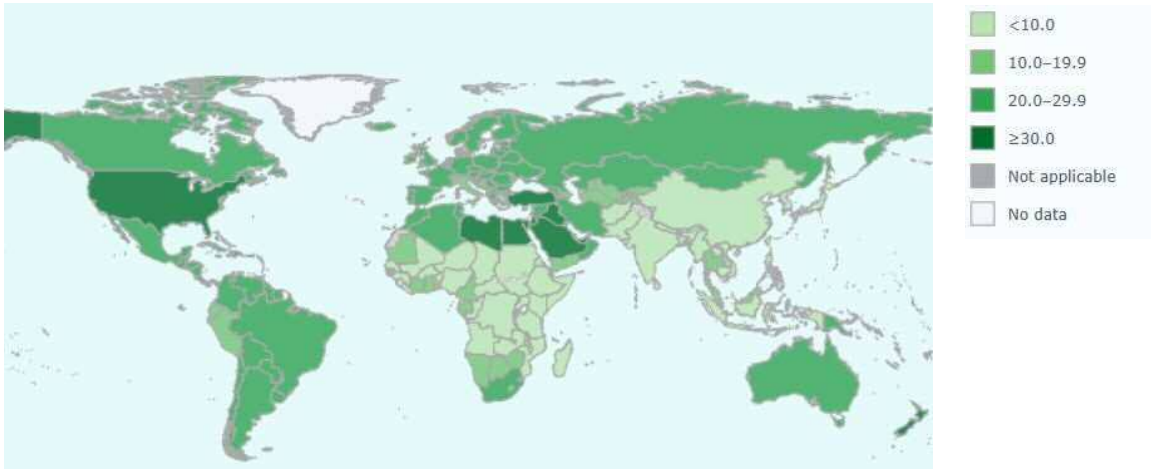
1/26 leaving or Japan

Definitions of Obesity

For adults, WHO defines, overweight is a BMI greater than or equal to 25; and obesity is a BMI greater than or equal to 30. However, it is just a rough measure, so each region or country should make their own criteria. For example, Asian people are more vulnerable to high BMI than European people, so the definition of “obesity” in Asian countries should be stricter than that of European countries, and start treating the patient before they suffer from the disease. There is another definition for the child, but this time I will not going to discuss about it, since I would like to focus on the obesity for adults.

0. Epidemiology

These days, there has been more and more obesity patients around the world, and the number of obesities has tripled since 1975, and in 2016, more than 1.9 billion adults (18 years and older) were overweight, and 650 million were obese. That means 39% of adults aged 18 years and over were overweight and 13% were obese. Below I attached the prevalence of obesity among adults aged 18 and over. We can see that BMI in Asian countries relatively better than the Europe and USA, but it doesn’t mean that Asian people need no intervention with obesity. Asian people are easier to have symptoms with low BMI than the Western countries.



The effect of the growth in obesity can be seen in other disease as well. As for diabetes, for example, the number of patients is four times higher and the prevalence has doubled

compared that of 25 years ago. In 2015, an estimated 1.6 million people died directly from diabetes, and 2.2 million death were because of high blood glucose. The obesity patients often tend to have underlying problem, such as diabetes mellitus, hypertension, and hyperlipidemia which can not only be lethal for the patients, but also can consume a big amount of medical expenses, and it will be a big burden for the society.

1. Pathophysiology

Diabetes can raise the risk of various kind of disease, and it is a major cause of blindness, kidney failure, heart attacks, stroke and lower limb amputation. Below I mention the disease whose morbidity rises due to the obesity.

- Metabolic complications: Type2 Diabetes, Hypertension, Dyslipidemia, Cholecystitis
- Increased abdominal pressure: DVT, Obesity hypoventilation syndrome, Nephrotic syndrome, Hernias
- Respiratory insufficiency: sleep apnea syndrome
- Cardiovascular syndrome: Coronary artery disease
- Sexual hormone dysfunction: Amenorrhea, hypermenorrhea, breast cancer
- Other carcinoma: colon, renal, prostate
- Infectious complications: dehiscence

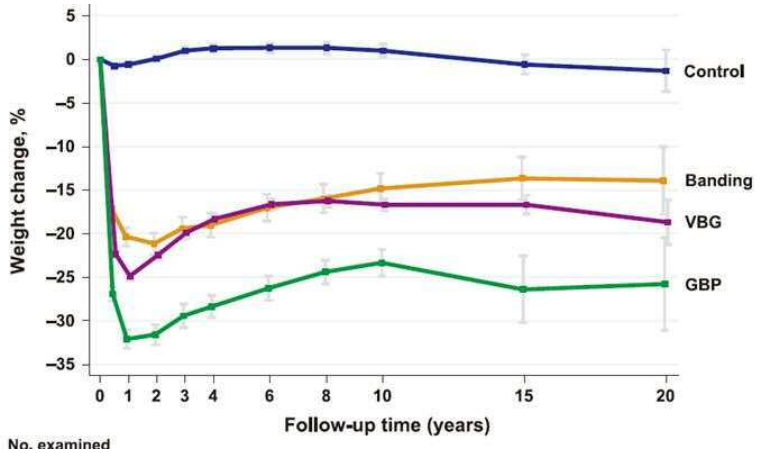
It has been said that central obesity is associated with a higher mortality compared peripheral obesity, and their prevalence is higher in men and women respectively. This has been attributed to metabolically more active visceral adipose tissue than to subcutaneous fat so that there is a greater rate of glucose production, type2 diabetes, and hyperinsulinism.

2. Treatment

As the number of diabetes patients increases, many approaches are made by doctors and researchers all over the world to deal with the problem. The most basic treatment is to change their lifestyle by changing their eating habits and having moderate exercise, which is necessary for almost all the patients with obesity and diabetes. In addition to that, of course, it is important to treat with medication for those who have underlying disease such as diabetes and hypertension.

On the other hand, however, such treatment has limitation. Diabetes, hypertension and other disease associated with obesity is difficult to cure fundamentally, and the treatment for them tend to be symptomatic. For example, we use Calcium blocker, ACE/ARB, Diuretic anther and Beta blocker for essential hypertension, and some studies show that some of the medication will inhibit the remodeling of the myocardium. However, the patients' blood pressure will rise right after the patients' stop to take medication, and it will not be the fundamental treatment. It can also apply for other disease associated with obesity.

The concept "Bariatric Surgery" was born to deal with problem. By cutting down the volume of the stomach, patients will not be able to eat much, and they are forced to cut down the amount they eat. The graph below shows how effective bariatric surgery works to decrease the body weight.



In this report, I would like to focus on LSG, which Dr. Yang mainly performed during my stay in NTU.

- Comparision between laparoscopic bariatric surgery and open bariatric surgery: Open bariatric surgery can be performed with a good income, but the wound-related complications such as infection and late incisional hernia. Postoperative wound infection occur in up to 20% patients. Bariatric surgery would be improved by minimizing the morbidity of the access incision. In addition, morbidity obese patients undergoing the laparoscopic approach benefit from a reduction in postoperative pain, shorter length of hospital stay, and faster recovery. Therefore, minimally invasive bariatric surgery has advantage in a reduction of postoperative complications compared to abdominal wall incision.
- Most common Bariatric Surgery in Taiwan

	Sleeve Gastrectomy	Roux-en-Y Gastric Bypass

		
Principle	Gastric volume ↓	Gastric volume ↓ Nutrition absorbent ↓
Decrease in BW	25-30%	30-35%
Long term complication	±	Relatively high

- Flow of Laparoscopic Sleeve Gastrectomy (LSG)
  1. Short gastric vessels of the greater curvature and retrogastric attachments are divided
  2. The dissection extends proximally to the esophagus-gastric junction and distally towards the pylorus.
  3. Perform vertical subtotal sleeve gastrectomy
     The pouch must be 20ml or less in measured volume. According to the LaPlace's law, the larger the pouch the more it will extend, and the compliance of patients to eat small amounts and chewing well is important to prevent dilation of the pouch.
  4. Continuous running suture along the stapler line to decrease the blood less from the transected gastric plane

- Preoperative/Postoperative care
  1. Obesity people being high risk, intermittent pneumatic compression is introduced to all patients to prevent DVT.
  2. If the patients show no complication, they will discharge in the post-operative day 4.
- Why LSG successful?
  Small volume of the gastric pouch restricts food intake, which prevents overeating. My supervisor, Dr. Yang said the patients can only eat approximately three dumplings for one meal. LSG also contributes to the satiety. Stretching the wall of the stomach by eating and drinking will stimulate the receptor of the gastric wall and the signals will go to the brain to suppress the appetite.
  Another factor to decrease the appetite is ghrelin. It is secreted primary by the fundus of the stomach, and has been implicated in both mealtime hunger and in

long term regulation of body weight. A research shows that after LSG, ghrelin shows the rapid decrease, which cannot be seen in banding patients.

- Disadvantage of LSG
  Recent data has shown good results in patient with BMI less than 50. However, all the published studies have short term (1-year) follow-up period. It has been evident that a sub-group of patients will regain after the year, the main reason of which is the dilation of the gastric pouch.

REFERENCES

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OBESITY SURGERY principles and practice, Kenneth B. JONES, JR. / Kelvin D. HIGA, Jose Carlos PAREJA

From now, I would like to write about the difference of medical education between Japan and Taiwan.

During my stay in Taiwan, I had a lot of chance to interact with local students. Dr. Yang, who took care of me during my stay, had two Taiwanese students following him. One was 6th year student, and the other was 5th year student. The name of 6th year student is Victor, and he lived in Canada for 15 years before entering university. His English was so good that I was inspired by him to Study English harder. I was with him all the time in the hospital, so I was able to learn how the medical students in Taiwan are like.

Education system in Taiwan is now 7 years before graduation and one year for PGY (初期研修医), but soon it will 6 years before graduation and 2 years for PGY, which is similar to that of Japanese. However, during the clerk, Taiwanese students have more chance to commit to the treatment. For example, Taiwanese clerk can write admission notes, taking history and physical examination. In Japan, we sometimes have chances to take physical examination, but it is not really evaluated by the doctors. Japanese students get enormous pressure once they become a PGY, because they don't know the work at all. I think we

should let the medical students commit to the care of patients so that they can easily get used to the work.

Another thing I thought great about the system of medical education in Taiwan is the slides in the lectures are all in English. Sometimes they even have exams in English. Therefore, almost all the medical students in NTU have really good command on English, especially medical terms.

Finally, I would like to thank all those who are in charge of this program, especially Dr. Tadamitsu Kishimoto, who supported me financially. Thanks to him and his scholarship, I was able to have great experience both academically and culturally.

Thank you very much.