

The Radiation Oncology Residency Program at UCSD offers its residents a unique opportunity for a one-month international rotation in radiation oncology at hospitals and clinics anywhere around the world. All we have to do is to decide on the location, initiate contact with the local hospitals or clinics and make arrangements to spend a month there working with the local radiation oncologists, physicists, and their supporting staffs.

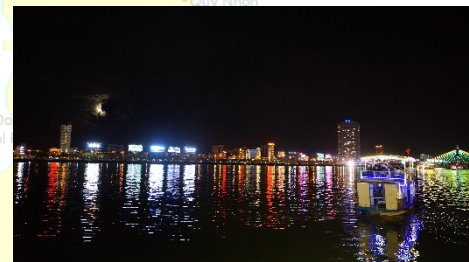
In the previous years, my colleagues have traveled to Asia, Europe, and South America. This year (2015), I secured an international rotation in Vietnam, my native country, with the help and support of our residency program. Even more special this year, the UCSD Medical Physics Residency Program inaugurated its first international rotation for the medical physics residents, and Adam Yock chose to join me in Vietnam.



I traveled to Vietnam first with my wife and two kids, and Adam joined us shortly thereafter. Our journey took us from San Diego, California to Saigon, Vietnam with transit through Tokyo, Japan... then from Saigon to Da Nang. Da Nang is the largest city in the central coast of Vietnam. Our first rotation was at the Da Nang Cancer Hospital. We spent 3 weeks there. Adam and I arrived at Da Nang International Airport on Sunday afternoon, dressed appropriately for the tropical weather!



Taking advantage of the cooler weather at night, we went on a short river cruise to see the Dragon Bridge on the Han River. It was quite a scene with the



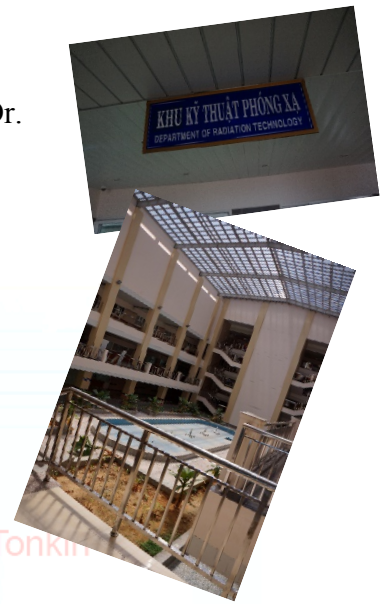
dragon breathing fire and water.

The Da Nang Cancer Hospital was an ambitious project costing approximately US\$71.4 million and taking 3 years to build. The hospital opened its doors in 2013. It is the biggest cancer hospital in the central region with 500 beds and it is the first non-profit hospital in Vietnam. The hospital also provided free services for the poor patients in the Da Nang and Quang Nam province.





On our first day at the Da Nang Cancer Hospital, we were greeted warmly by Dr. Nguyen Hong Long, Chair of the Oncology service. He introduced us to the staff members including the department radiation oncologists (Drs. Quang, Hoa, Hai, Thanh), medical physicists (Mr. Dung and Mr. Hung), therapists, and many others. Everyone in the department welcomed us with open arms and went out of their way to help us settle into the daily routine.



An interesting observation we made early on was that the department does not have any formal dosimetrists. All the plans were a cooperative effort between the treating physicians and the medical physicists. At the time of our visit, all of the plans were 3D conformal; IMRT has not yet been implemented, though the team was eager to do so.



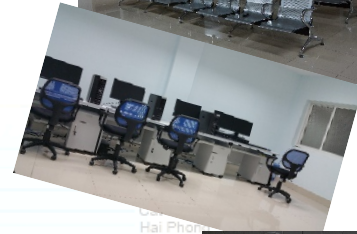
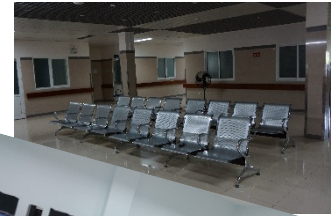
We started every day at 7:30AM in the conference room with a handover report from the night team. All patients who received radiotherapy treatment or concurrent chemoradiotherapy treatment were inpatients. This was in part due to the fact that most patients lived far away in the neighboring provinces. For some of them, it could take half a day or a full day of travel to get to the hospital for cancer treatment.



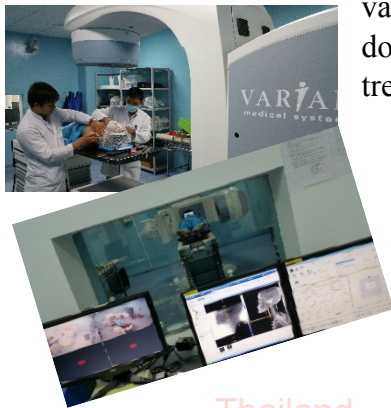
After the handover report, we began our daily rounding during which newly admitted patients were examined and their records including radiology and pathology were reviewed. The patients who were on treatment were also examined for treatment side effects (negating a need for designated on-treatment visits as we do at UCSD). We shared exam findings and engaged in lively discussions regarding the similarities and differences in treatment and diagnosis between the US system and the Vietnamese system. There was an impressive prevalence of nasopharyngeal carcinoma, accounting for over 50% of the patients at the Da Nang Cancer Hospital undergoing cancer therapy. The majority of them had advanced T3/4 with N+ diseases. The second most prevalent disease was rectal cancer, comprising roughly one-third of the patients under treatment, with esophageal cancer close behind. Unfortunately, it was rather common that patients were diagnosed with cancer at advanced stages or with metastatic disease.



After the rounding, we usually went down to the treatment area which is a few floors below the inpatient unit. It has 3 vaults, 2 brachytherapy suites, a CT-simulation room and a conventional simulator room as well as patient waiting area, dosimetry/planning suite, and offices. At this time, the 2 brachytherapy suites and one vault (intended as a dedicated LINAC-based SRS vault) remained unoccupied. There are 2 Varian



LINACS (UNIQUE and CX) that are currently operational in the remaining 2 vaults. We spent the majority of our time in the dosimetry/planning suite where we worked on treatment plans with the Vietnamese radiation oncologists and medical physicists. We also spent time with the therapists, and got to see a conventional simulator in action.



Adam spent a lot of time with the medical physics team, helping and sharing with them the technical aspects of machine QA and treatment planning on Eclipse. The physicists and therapists were certainly happy to have Adam joining their team and sharing his experiences with the QA process.



Once or twice a week, we also participated in the tumor board featuring an old-school light box for radiographic studies and paper records for pathology. There was no electronic medical record in the hospital. We would all gather around the light box and discuss the imaging studies and their implications.

Thailand



Coincidentally, during the time that we were spending at the Da Nang Cancer Hospital, the USNS Mercy of the US Navy also arrived at Da Nang on a humanitarian mission. Interestingly, the USNS Mercy was built by the National



Steel and Shipbuilding Company in San Diego in 1976 originally as an oil tanker, but was subsequently converted in 1984 to the hospital ship commissioned in November 1986. On our way home every day, we could spot the majestic shape of the USNS Mercy right off the coast.



It was definitely not all work all the time. Our friends and colleagues at the Da Nang Oncology Hospital took us out to lunch during our second week there for a welcome reception. The restaurant was located by the bay. A cool summer breeze was perfect for such a hot day. We had a great time talking while enjoying the food and the scenery of the Da Nang Bay.



We also took advantage of the after-hours and weekend to explore the nearby towns and cities. We visited historic ancient town of Hoi An, which was approximately 40-minute drive to the South from Da Nang. In 1999, UNESCO formally recognized Hoi An as a World Heritage Site. This town used to be a major trading port for Vietnam economy in the 15th to the 19th century. We toured the town on foot, visited the ancient homes and temples, and enjoyed the street food and the night life in Hoi An.



One weekend, we also traveled to Hue, which was the imperial capital of the Nguyen Dynasty between 1802 and 1945. Hue



is about a 2-hour car drive from Da Nang. We spent the day visiting the Imperial palaces, tombs of the past kings, and the Perfume River

with the Thien Mu Pagoda on its bank. We couldn't resist testing out the Hue cuisine.



But all good things must come to an end. Three weeks at the Da Nang Oncology Hospital flew by. It was time for us to say good-bye to our friends at Da Nang Oncology Hospital and to thank them for their incredible hospitality. To top it off, our friends sent us off with a private farewell dinner at a local restaurant. We sincerely appreciated the welcoming atmosphere and the

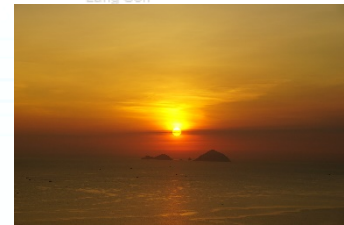


collaborative environment that our friends and colleagues at the Da Nang Oncology Hospital have extended to us. We shared our U.S. experiences in Radiation Oncology as well as learned significantly more about how radiotherapy is delivered in Vietnam from our colleagues. It has truly been a remarkable experience.



To our friends and colleagues at the Da Nang Oncology Hospital, we say thank you.

As the sun began to rise over the horizon, marking a new day, we started our journey to Ha Noi, Vietnam where



we spent one week in the Radiation Therapy Department at Vinmec Hospital.



On Saturday, August 22, 2015, we took a short 50-min flight from Da Nang to the capital of Vietnam, Ha Noi. We had one week to spend in the Radiation Therapy Department in the Vinmec International Hospital, an integral part of Vinmec Health Care System. Vinmec International Hospital opened its door in January of 2012 with the Oncology



Department starting its operation in February of 2014. In January of 2015, the Radiotherapy Center was inaugurated. Vinmec was the first general hospital in Vietnam to achieve JCI accreditation in 2015. It is a private hospital with the mission of delivering first-class healthcare service. The hospital is beautifully built with a layout resembling western hospitals.



At Vinmec Radiation Therapy Department, we worked with Dr. Hiep, the main radiation oncologist, Bach and Long, the 2 physicists, and the therapists. Once again, we received a warm welcome from the Vinmec team. While I spent time with Dr. Hiep seeing consults and visiting patients on the oncology floor, Adam accompanied the medical physicists and helped them with the TBI protocol that they are working to develop. The Vinmec



Radiation Therapy Department housed a Varian IX equipped with on-



board imaging (OBI) capabilities. It is one of the few LINACs in the country that have OBI. IMRT and VMAT treatments have been implemented at Vinmec Hospital and patients were treated with IMRT or VMAT as appropriate.



We also took advantage of the free time at night and one weekend to visit places in Ha Noi and sample the Northern Vietnamese cuisine. Adam has developed a street food evaluation system based on the height of the plastic chairs and tables



We toured the Hoan Kiem Lake at night to experience the night life in Ha Noi. We also had some awesome “pho” since “pho” is originally a Northern Vietnamese dish which has been popularized throughout the country and even around the world.



One week went by rather quickly. We again had to say goodbye to new friends and colleagues. Once more, we were sent



off after a nice party one of our last days in the city. Everyone from the department was there and had fun with many cheers and good wishes. Next time, if you have a chance to see Adam, you have to ask him what was in the glass that he was raising to say farewell to our friends at Vinmec.



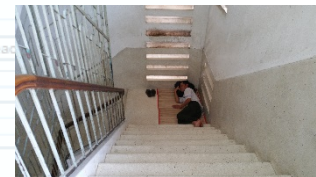
We flew back to Saigon from Ha Noi the next morning. Alas...that concluded our wonderful international rotation in Vietnam. What an incredible experience! We had the chance to observe and participate in the constantly changing landscape of radiotherapy in Vietnam. While we were able to share our clinical experiences with our colleagues and friends in Vietnam, we also learned much more from them. For that, we owe them our deepest gratitude.



From Saigon, Adam headed on to Siem Reap, Cambodia for a few days for his short vacation prior to returning to the San Diego. I stayed in Saigon and visited the Ho Chi



Minh City Oncology Hospital. I had an opportunity to meet with Dr. Cung Tuyet Anh who is the head of the radiation oncology department at the HCM city Oncology Hospital and she extended me an invitation to visit her department. It was my honor to accept the invitation. The hospital was extremely crowded. There were 2-3 patients per bed. Patients’ family members had to stay in the hallway or stairwell. Also interesting was that the hospital had a cobalt machine still being used to treat patients.





Adam and I joined up again in Saigon and we flew back to San Diego together on September 07, 2015. Now that we are



back in San Diego, nothing reminds us of our wonderful experiences in Vietnam more than a cup of coffee in the morning.



A big **Thank You** to the Radiation Oncology Medical Residency Program and the Medical Physics Residency Program at UCSD Department of Radiation Medicine and Applied Sciences for making this trip possible.

Long Pham, MD PhD
 UCSD Radiation Oncology Resident (PGY-5)
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