

The Radiologist in the modern teaching Hospital

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Hospital

Perhaps it is true to say that no branch in Medicine has changed so drastically in the last twenty five years as did Radiology. Up to the last World War, the Radiology Department was usually housed somewhere in the basement of the Hospital and the Radiologist, often 'amateur' and 'honorary' popped in and out of the hospital and reported on piles of films, often unnoticed. More often than not, nobody took much notice of his reports. This was the sad state of Radiology in those far gone days.

Since the last World War, the whole of Medicine has changed a lot, and we feel that Radiology, through its evolution, has played a considerable part to bring about such a change. To take only one aspect, organ transplantation, cardiac surgery and vascular surgery have been made possible through the developments and advances in Radiology.

Nowadays, the Radiologist is often as busy with his hands as the surgeon. Diagnostic procedures which previously were carried out by the surgeon, orthopod or obstetrician, are now handed over to the radiologist because his results are often more definite, accurate and informative. The radiologist now has the time, dexterity and facilities to carry out such diagnostic procedures. Besides, the radiologist is more likely to be conscious of the radiation hazards and he will take the necessary steps to cut these down to a safe minimum.

The objects of this article are:—

- a) To draw you a picture of the professional life of the radiologist and to evaluate his contribution to Medicine in the modern teaching hospital.
- b) To consider briefly the place of Radiology in the Medical curriculum.
- c) To touch on the specialising facilities available, should any of you be attracted to radiodiagnosis, and
- d) finally to recall the opportunities and prospects that await the young radiologist.

Perhaps I should mention that I am mainly basing my remarks on my experience in the United Kingdom. Also, my observations relate to the teaching hospital. Obviously in the non-teaching hospital, there are not the facilities and need for the teaching and research that take place in the teaching hospital.

The Radiologist in the Teaching Hospital

Nowadays the Radiology Department is recognised as the 'nerve centre' of the hospital. It is here that diagnosis is usually made or confirmed. It is here that the results of treatment are assessed.

Discussions take place not only about the possibili-

ties and advisability of further radiological investigations, but also about the differential diagnosis and results to treatment. The Clinician feeds in the clinical details and the radiologist helps with the interpretation of the radiological findings. Often these conferences are extended to include the pathologist who proves or disproves the radiologist's findings.

You will find that such discussions take place daily and are greatly beneficial to teaching, not only to the clinician, but also to the radiologist.

In the average teaching hospital you will find that there are several consultant radiologists and consequently sub-specialisation in Radiology is now possible and pretty well established. In the past, and this still applies to the smaller non-teaching and non-specialised hospital, the radiologist was expected to give an opinion in every branch of Medicine. In the teaching hospital you will find that the radiologist has the opportunity to sub-specialise in a particular field e.g. neuroradiology, cardiovascular radiology, gastroenterology, paediatric radiology, obstetric radiology, and so on.

A teaching hospital is usually served by 3 to 6 consultant radiologists responsible for the radiological work, teaching and research commitments. One of these, usually the most senior, is in administrative charge of the department, or designated as 'director' or in a few instances 'professor'. Work is shared according to speciality, although there is usually some overlap.

These consultants are supported by senior registrars who are shared or rotate between the various hospitals in a group or region. There are a number of registrars, either pre-diplomate or those who have recently acquired their diploma and are waiting for a senior registrar post.

The place of Radiology in the Medical Curriculum

I feel we ought to start by considering the relationship radiology ought to have to *undergraduate teaching*. May I stress that I do not think that one should give the impression that we are turning the medical student into a radiological specialist.

Specialisation comes years after medical qualification. Having said that, I feel that the medical student ought to be made aware of:—

- i) The place and importance of the speciality in medicine as a whole.
- ii) The limitations and contraindications of the various radiological techniques.
- iii) Principles of interpretation of a chest plate and other common routine investigations.
- iv) All medical students should spend some time in the X-Ray department to see how such an organisation works.

You will find that more and more medical schools are taking steps to fulfill the above desiderata and even some universities are now realising that radiology should play an earlier and greater part than this. In some centres radiology is now used during the teaching of structure and function i.e. Anatomy and Physiology. Groups of students go to the X-Ray Department to see investigations such as Barium meals and enemas, arteriography and angiography. After all, radiology is living anatomy and pathology. Closed circuit T.V. or video-tape systems are now installed to help with such teaching arrangements.

Medical students have elective periods during their clinical years during which they can do any subject so long as it is approved by the dean. Many, nowadays, go abroad; some go to other countries and a few may decide to do radiology. We always have one or two students who elect on Radiology and I have formed the opinion that they find this helpful towards their studies.

Perhaps one of the best undergraduate teaching systems is that developed at Newcastle where "all systematic instruction during the clinical years is given as a series of fully integrated courses based on subjects or systems of the body. There are no medicine lectures, surgery lectures" and so on, as such... "all disciplines take part in a carefully constructed course" to include all systems, and the radiologist forms an important member of such a team. (Smart, 1970).

Postgraduate Teaching

As I hinted earlier, clinicoradiological ward rounds and radiological discussions have become very popular in teaching hospitals. Housemen are encouraged to attend and to contribute to such discussions. Such sessions develop the young doctor and prepare him for higher medical examinations.

In most teaching centres radiologists are asked to contribute in special courses in preparation for higher examinations, particularly M.R.C.P., F.R.C.S. and M.R.C.O.G. Also, the radiologist is frequently invited to participate in post-graduate refresher courses including those with the general practitioner.

We are gradually moving to a stage where we appreciate that radiodiagnosis is interwoven with every aspect of medical life. The Ministry of Health in the United Kingdom and the Faculty of Radiologists, acknowledge that the radiologist's work load in the teaching Hospital is increased by these teaching and research commitments by 40 per cent.

Radiodiagnosis Specialisation

i) *Pre-radiological clinical requirements:* One is often asked by young doctors or undergraduates intending to take up radiology about the extent of pre-radiological clinical experience. The brief answer should be 'the more the better'. The regulations, however, insist on a minimum of one year after the pre-registration house appointment.

ii) *Radiological Training:* In the U.K. it is usual for the prospective radiologist to first get his D.M.R.D. This consists of two parts:— Part I comprising Physics, radia-

tion and photography — the exam is taken after 4 months.

Part II in clinical radiology, is taken at the end of two years.

The usual pattern is for the diplomate to spend a further year as registrar during which time he prepares for his F.F.R. This is usually taken after 4 years of full time radiology. The exam consists of papers in Medicine, Surgery, Pathology and Radiology.

The Faculty of Radiologists has now introduced a Part I F.F.R. and by October '72 all centres which before trained for the D.M.R.D. should also hold courses for the Part I F.F.R. which lasts over one academic year.

It is not unusual to find some of those registrars working in a teaching hospital to get an M.D. or an M.R.C.P. during their registrarship.

Opportunities and Prospects for the Future Radiologist

You may ask if Radiology is so appealing why is it that there are still vacant posts? The answer is complex — but there are many factors. a) In some medical schools, there is still not enough contact with the medical student. b) Some people still associate radiology with its hazards: these are normally cut down to a safe minimum. c) The 'second class' consultant which was associated, in the past, with the specialty. In those days 'Prima Donna' Physicians and Surgeons used to look upon the radiologist as a second class colleague — a back room worker. This description certainly no longer applies. d) Long training — and if you stop short of full specialisation, such training may be considered wasted. e) With more procedure being introduced, the specialty is already overworked — a vicious circle is established. Such a heavy workload might deter some. f) Brain-drain-vacancies occur everywhere, and radiologists in the U.S.A. and Canada earn a much higher income than those in the U.K. It is estimated that about 12-15 trained radiologists leave England every year.

At the moment there is a shortage of trained radiologists relative to other branches of Medicine in the U.K., especially in the non teaching hospitals, in the U.S.A. and Canada and even in some European countries. At the same time there is likely to be an increase in the number of academic posts in the main teaching centres in the U.K. Consequently the outlook for the young, keen and interested aspirant is bright.

Radiology is expanding the whole time. Not only the equipment is getting more complicated, but also other diagnostic gadgets are being added. Isotopes now are in wide usage in Medicine, and more recently Ultrasound and thermography have found their use in Radiodiagnosis.

It is now being realised that the radiologist has acquired too much on his plate and the time is approaching for the need of a Physician in Nuclear Medicine taking over and be responsible for Isotopes and maybe other non-radiological investigations. I would have thought that radiologists with special training in Nuclear Medicine would be ideally suited. The first of such courses is starting in London at the end of this year.

Conclusion

To sum up, radiology has undergone a complete transformation and perhaps no branch of Medicine has changed so much over the last 25 years. The radiologist does not spend all his time in front of the familiar pile of radiographs, endlessly reporting. He carries out procedures which are exacting and entail considerable dexterity. The radiologist is now accepted as an important member of the medical team. "He acts as a catalyst between the various branches" (Teach-in. 1972) He con-

tributes enormously to the teaching programme, both to undergraduates and post-graduates.

I have found the specialty interesting and absorbing, and I am sure that if the right person among you decides to take up Radiology he will not have a chance to regret his decision.

References

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