THE BELFAST EXPERIMENT IN DIRECT ACCESS TO CONTRAST RADIOGRAPHY

by

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The general practitioner working in his consulting room or his patient's home has a strictly limited range of diagnostic facilities available to supplement his clinical skills and experience. As long ago as 1946 the Annual Representative Meeting of the British Medical Association recommended that wherever possible, hospital departments of pathology and radiology should give direct access facilities to general practitioners. In spite of this, the 'open door' department has been slow to materialise.

In 1968 Anderson wrote: 'The start of the National Health Service in Britain coincided with a distinct hardening of the lines of demarcation between general practitioners who worked outside the hospitals, and the consultants, registrars and housemen who worked inside the hospitals. One of the manifestations of this was that access to laboratory and radiological facilities tended to be regarded as perquisites of the hospital doctors. Some general practitioners had open access to X-ray equipment at cottage hospitals, but most were obliged to refer patients to hospital out-patients clinics (or to casualty departments in emergencies). A hospital doctor then decided whether an X-ray examination was necessary and, if so, what particular examination should be carried out'. Many reasons were advanced for the failure to make progress over the years, the most often quoted being shortage of space, equipment and staff in the various departments and a fear of being inundated by a flood of unnecessary or inappropriate investigations.

There were, however, notable exceptions to the general pattern and several hospitals were pioneers in extending these facilities to family doctors. In October 1962, the Radiology Department of the Royal Infirmary, Dundee, offered direct access facilities to neighbouring general practitioners, and in January 1964 Hammersmith Hospital initiated a restricted service. In September 1964, Guy's Hospital introduced a limited service to 'practitioners believed to be interested'. In the following month, the diagnostic X-ray department of the Middlesex Hospital notified two hundred doctors in the area that they were offering direct access facilities for X-rays of the chest, skeleton and paranasal sinuses. Within a year this service was extended to include all investigations suitable for out-patients with the exception of barium enemas, as it was felt that adequate preparation of the patient might prove a difficulty. In 1966 facilities became available at King Edward VII Hospital, Windsor.

It was not until the end of 1972 that Belfast was to attempt a pilot scheme on these lines. At that time there was in existence a number of 'teaching practices' established by the Northern Ireland Council for Post-Graduate Medical Education for the purpose of vocational training in general practice. Arrangements were made between the Council and the Department of Radiology of the Royal
Victoria Hospital, and a series of familiarisation meetings was held. Dr. E. M. McIlrath, Consultant Radiologist at the department, discussed the various indications and precautions, and the necessary administrative details were agreed. The department offered initial facilities for carrying out ten barium meals, ten cholecystograms and five intravenous pyelograms per week. Normally reports were to be sent back to the referring doctor, but the radiologist reserved the right to intervene and refer a patient directly for consultant opinion if the X-ray appearances warranted.

This paper reviews the work which has been carried out during the three years since the scheme became operative. I hope to show how much the service has been used, how many of the examinations have proved positive, and what general conclusions may be reasonably drawn.

RESULTS

Table 1 shows the number of examinations carried out each month from 1973 to 1975. There were 56 examinations in the first year and 88 in the second year, a considerable increase, suggesting that the scheme was proving popular and useful. Unfortunately, the total for the third year dropped to 68, implying that factors were at work rendering the service less acceptable. I believe the principal factor was the civil unrest and violence in Belfast and the fact that the Royal Victoria Hospital is sited in an area of the city which is considered unsafe by some members of the public.

Table 2 shows the type of investigation requested. These consisted of 117 barium meals, 56 per cent of the total. There were 56 cholecystograms (27 per

| TABLE 1: NUMBER OF INVESTIGATIONS CARRIED OUT EACH MONTH |
|----------------|----------------|----------------|----------------|----------------|
| 1973           | 3              | 1              | 8              | 2              | 6              | 6              | 6              | 2              | 7              | 5              | 3              | 7              | = 56          |
| 1974           | 8              | 11             | 14             | 8              | 8              | 4              | 0              | 5              | 5              | 4              | 16             | 5              | = 88          |
| 1975           | 6              | 2              | 9              | 10             | 5              | 4              | 2              | 3              | 10             | 3              | 9              | 5              | = 68          |

and 37 intravenous pyelograms (17 per cent). In addition, there were a small number of barium enemas, X-rays of the chest and spine carried out when requested, even though these investigations had not been offered to the participating doctors at the inception of the scheme.

| TABLE 2: RADIOLOGICAL INVESTIGATION REQUESTED |
|----------------------------------------------|
| Barium meal                                   | 117 (56 per cent) |
| Cholecystogram                                | 56 (27 per cent)  |
| Intravenous pyelogram                         | 37 (17 per cent)  |
| Total                                        | 210               |
Table 3 shows the incidence of radiological abnormalities or positive findings. Of 117 barium meals 75 were abnormal, an incidence or 'strike rate' of 64 per cent. Of 56 cholecystograms there were 19 positive (34 per cent) and there were 13 positive out of 37 intravenous pyelograms (35 per cent).

### Table 3: Incidence of Abnormal X-ray Findings ("Positive")

|                        | Number of investigations | Positive findings | per cent |
|------------------------|--------------------------|-------------------|----------|
| Barium meal            | 117                      | 75                | 64       |
| Cholecystogram         | 56                       | 19                | 34       |
| Intravenous pyelogram  | 37                       | 13                | 35       |
| Total                  | 210                      | 107               | 50.9     |

Table 4 is a comparison of results of the Belfast practitioners with those of other hospital centres and our RVH consultant colleagues. The positive strike rate for barium meals and cholecystograms is marginally higher in the case of the teaching practices than in any other group. That for IVP's is appreciably less than the RVH consultants and the Royal Infirmary, Dundee, but comparable with the figures from the Middlesex Hospital, and the Student Health Service at Queen’s University, Belfast.

### Table 4: Comparison of Belfast Results with Other Groups (per cent)

|                        | Belfast teaching practices | RVH consultants | Royal Infirmary Dundee* | Middlesex Hospital* | Student Health Service, QUB |
|------------------------|---------------------------|----------------|-------------------------|---------------------|----------------------------|
| Barium meal            | 64                        | 54–60          | 60                      | 44                  | 62                         |
| Cholecystogram         | 34                        | –              | 30                      | 19                  | –                          |
| Intravenous pyelogram  | 35                        | 46             | 48                      | 23                  | 33                         |

* G.P. referrals

Table 5 shows the additional work undertaken in the Radiology Department as a result of this scheme. It can be seen that GP referrals formed approximately 1 per cent of the three investigations carried out in the department during the period under review.
TABLE 5: ADDITIONAL WORK UNDERTAKEN IN THE RADIOLOGY DEPARTMENT R.V.H. DURING ACCESS BY TEACHING PRACTICES 1973-1975

|                      | Total hospital tests (approximately) | From GP’s referrals of total work load |
|----------------------|--------------------------------------|---------------------------------------|
| Barium meal          | 15,000                               | 117                                   | <1 |
| Cholecystogram       | 5,000                                | 56                                    | >1 |
| Intravenous pyelogram| 5,000                                | 37                                    | <1 |

DISCUSSION

In 1966 Cook reviewed the first year of the 'open door' X-ray facility at the Middlesex Hospital and wrote 'There can be no doubt that the open access policy is right in principle. The quality of the requests, the incidence of positive findings and the rapidly increasing demand all point to this'. Similarly, Anderson (1968) when describing the first three years of the experiment in open access at Guy's Hospital found that general practitioners are no less discriminating in their referrals (as judged by positive results) than the consultant staff in the outpatient departments.

Steiner (1965) reviewed the first ten months of the service offered by Hamme-smith Hospital. He wrote, in a refreshing spirit of camaraderie: 'We have tried to develop a system which in a small measure should be of help to our general practitioner colleagues within the area of the hospital'. His conclusion read as follows: 'There is no doubt that open access for general practitioners to hospital X-ray departments is a step in the right direction. With time the service will probably expand and co-operation between the hospital diagnostic service and general practitioners will improve. In many cases the service avoids delay. When patients are sent to out-patients for consultation, some of the necessary X-ray examinations have already been carried out. In some instances, the management of the patient is left entirely to the practitioner, and hospital referrals are not necessary'. It is my own opinion that a further bonus would accrue in that by freeing the consultants from many routine and repetitive investigations they would have more time for the elucidation and management of more obscure problems.

The figures given indicate that the pilot scheme in Belfast has produced results comparable with those from other centres, and therefore that their conclusions are just as valid here. I would hope that the facilities could be extended and expanded in the direction of other hospitals, for example, the City Hospital, the Mater Hospital and the Ulster Hospital, and I am confident that they would be used intelligently and with discrimination. Perhaps the most telling argument in support of this goal is the fact that the vocational training schemes for general practice will produce doctors who for two of their three years in training will have access to all investigative procedures in hospital. Dare we then deny them these facilities once they take their place in the primary care team?
I am grateful to Dr. E. M. McIlrath, Consultant Radiologist in the Department of Radiology in the Royal Victoria Hospital, Belfast, for help and advice in the preparation of this article, to Dr. R. W. Harland for figures relating to the Student Health Service, Queen’s University, Belfast, and to Dr. A. G. McKnight for assistance in preparing the statistics in respect of the Belfast referrals.

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