

# Archives and Artifacts / Archives et artefacts de la pratique médicale

## The Origin of Cancer Metastasis

JEAN CARR AND IAN CARR

Little was known about cancer in 1829. Cancer was regarded as scirrhous, encephaloid and melanotic hard, soft and black. Deep-seated cancer was almost inevitably fatal, as was breast cancer. Surgical treatment of breast cancer was ineffective, and often fatal. Post-operative infection was very common. Radical mastectomy was 30 years in the future, and in the 1880s had a mortality rate of 25% in the hands of Billroth; even by 1900, the “safe” radical mastectomy of Halsted had a three-year cure rate of 57%. In 1829, a French surgeon, J. C. A. Récamier, (1774-1852) in his book on cancer, gave the first clear reference to metastasis—“*métastase*.”<sup>1</sup>

The only biography of Récamier, over 450 pages long was published in 1899.<sup>2</sup> (Figure 1) He grew up 50 miles east of Lyons, and started his medical training as an apprentice, with his uncle. In 1793, the Revolution was threatened from all sides<sup>3</sup> and Récamier was conscripted as a surgeon to the army of the Alps, and served in the siege of Lyons, and then in the Navy, where he was captured in the *Ca Ira*, and practised for a year at St. Florent, Corsica, as a surgeon.<sup>4</sup> The building where he was interned still exists. Released under an exchange, he served in the Naval Hospital in Toulon once more, and then gained a scholarship to study at the Hôtel-Dieu Hospital in Lyons, and then in 1797 at the Hôtel-Dieu Hospital in Paris. His way now lay before him. He was young and enthusiastic, and in 1799 won the Grand Prize of the school, and later gained his doctorate.

---

Jean and Ian Carr practised medicine once upon a time and live in Victoria, B.C.

Figure 1



Récamier as a young man

Récamier had an astonishing capacity for hard clinical work. In 1806 at the age of 33 he became chief physician to the Hôtel-Dieu Hospital in Paris. He developed over the years vaginal hysterectomy of the prolapsed uterus, the use of the bivalve speculum and curette, and treatment of pelvic abscess through the vaginal vault. In 1829 Récamier removed a uterus through the vagina, nearly 20 years before the introduction of general anaesthesia. In 1820 he became Professor in the University of Paris Faculty of Medicine, and on Laënnec's death in 1826, succeeded him as a member of the Collège de France. He was now one of the most important surgeons of his day, and practised until his sudden death of apoplexy at the age of 78.

He wrote many papers, but his book is his only major work (Figure 2). It gives us a vignette of his understanding of medicine at the end of 1829. He gave a clear account of metastasis, although there is some recent dispute as to whether he actually proposed haematogenous metastasis for the first time.<sup>5</sup> He recorded that he treated cancer of the breast by compression, sometimes with adjuvant cauterisation or removal of residual tumour. He noted that he treated cancer of the cervix by compression, chemical cauterisation and ultimately by vaginal hysterectomy, as well as using such drugs as laudanum, atropine, and quinine. The accounts depict medical practice, and highlight the sufferings of patients in the pre-anaesthetic era.

Figure 2



The title page of Recamier's book

The book in two volumes, is divided as follows:

1. A set of 62 case histories of breast disease, and an account of its treatment by compression. To these can be added 23 further cases in his addenda, making a total of 85.
2. An account of 13 cancers in other sites.
3. His general comments on cancer.
4. An attempt to systematise disease scientifically.
5. A discussion of other non-cancer disease states such as fevers and the exanthemata.

Most interesting is his experience of breast disease, and his brief account of his small group of cancers in other sites. When Récamier's cases of breast disease are re-examined, it becomes clear that there is a large margin of error. Modern diagnosis and classification is microscopic; this did not become theoretically possible until the 1870s and was not in widespread and effective use until later in the century. Recamier classified lesions as Benign or Cancer. Clearly these diagnoses are putative by modern standards, based on microscopic analysis.

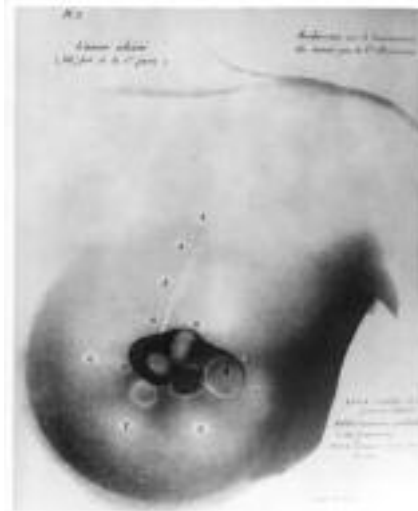
Using Récamier's own clinical descriptions, and modern understanding of pathology, we were able to divide the benign group into breast abscess, breast swelling, lumpy breasts and isolated breast lumps.

These shade into one another and can be subsumed as breast lumps. The remaining cases were breast cancers with ulceration, spread, cachexia, and death. The maximum follow-up was 2 years; many were followed up for less than this, and essential detail is missing in many. There was a total of 42 breast lumps, and 43 cancers. Of the 42 breast lumps, 18 of these lesions were cured and all survived, at least until the book was written. Of the cancers 5 were still alive, from the most recent cases reported at the time of writing. Clearly the statements on survival are not reliable, because the time of examination was so short.

Since surgical removal was often fatal, due to post-operative sepsis, Récamier advocated compression either as a sole treatment, or as an adjuvant. This dated back at least as far as Ambroise Paré, and had more recently had a vogue in England.<sup>6</sup> Récamier's version of treatment involved tight bandaging of the affected breast with a hard fungal compress. It was at least partly successful for benign lesions, and uniformly unsuccessful for cancer.

He illustrated only one of these cases (Figure 3). The patient, a single woman of 48, had noticed a tiny lump in the left breast five years previously, which increased to the size of a nut, and after various ineffective treatments was extirpated by Dupuytren in 1823. It healed completely, but recurred seven months later, and by December 1826 had ulcerated, and was covered with raspberry-like vegetations. The substance of the breast was the size of a goose egg, hard and bosselated, and there was a cherry-sized axillary node.

Figure 3



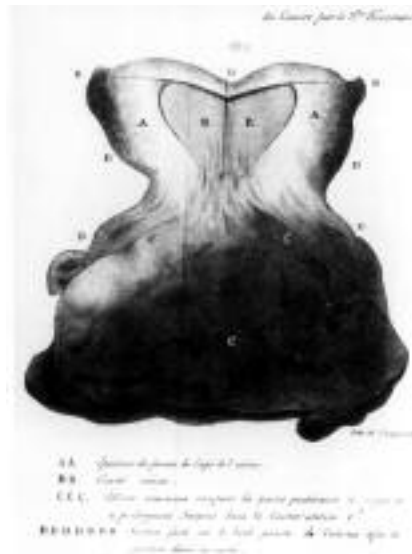
Carcinoma of the breast

She was admitted to the Hôtel-Dieu in March 1827, and after three painful chemical cauterisations, compression was started and the ulcer debrided to show healthy granulation tissue. The tumour became a flat disc  $1 \times 2\frac{1}{5}$  inches in size, but the skin still did not close. Despite a further prolonged painful chemical cauterization, the tumour remained and Récamier removed it the next day by incision and blunt dissection. Despite apparent complete cure at the time, follow-up was incomplete.

He also described a much smaller series of other cancers, four cancers of skin of whom one patient died after erysipelas, one of mouth, a cancer of the submandibular region, a large and lethal malignant melanoma on the back, five cancers of cervix, of whom three patients survived and two died, one cancer of rectum, and one cancer of stomach, neither of which seemed to be lethal. They may not have been cancer.

He gives an illustration of one of the cervical cancers (Figure 4), which was of a prolapsed uterus with a large foetid cervical cancer. The treatment was prolonged and extremely painful. The entire uterus was isolated by ligatures placed in the roof of the vaginal vault and progressively tightened, until the tissues became gangrenous and separated.

Figure 4



Carcinoma of the uterus, probably of the cervix uteri

He began the experimental series with the following words, " I will conceal no failure, or fault on my part when I find one. On such an important subject, the friends of truth must be able to have all of the facts to consider. I will not name the patients—but wherever possible, I will quote reliable witnesses who cannot be discounted."<sup>77</sup>

His discussion of cancer concludes with this statement: "I will be happy if my work, imperfect as it is, may aid only one other observer, to discover the best way to cure the appalling disease which has been my particular concern for many years."<sup>8</sup>

Récamier's book was one of the earliest medical texts on oncology, and describes the suffering of cancer patients of the day. He helped begin the proper prospective surveys of disease-states with honesty and a commitment to include all facts, even those which did not fit his expectations. It is ironical that his achievements are forgotten; he is remembered mainly for his putative part in the development of the concept of tumour metastasis, which he cannot possibly have understood as we define it today.

#### NOTES

- 1 J. C. A. Récamier, *Recherches sur le traitement du cancer par la compression méthodique simple ou combinée, et sur l'histoire général de la même maladie* (Paris: Gabon, 1829).
- 2 Paul Triaire, *Récamier et ses contemporaines 1771-1852: Etude d'histoire de la médecine aux XVIII<sup>e</sup> et XIX<sup>e</sup> siècles* (Paris: J.-B. Balliere, 1899).
- 3 William Doyle, *The Oxford History of the French Revolution* (Oxford: Clarendon Press, 1989), p. 253-55.
- 4 François Hacquin and Claude Joseph, "Anthèlme Récamier de la marine à la gynécologie (1774-1852)," *Histoires des Sciences Médicales* (1987): 21, 345-49.
- 5 Escande C. Lugassy, "The Haematogenous Theory of Metastasis: Récamier Did Not Propose It," *Virchows Archiv: An International Journal of Pathology* (1997): 431, 371.
- 6 G. T. Haneveld, "Compression as a Treatment of Cancer," *Archivum Chirurgicum Neerlandicum*, 31, 1 (1979): 1-8.
- 7 Récamier, "Recherches sur le traitement du cancer."
- 8 Récamier, "Recherches sur le traitement du cancer."