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Dukes C E. The classification of cancer of the rectum.
J. Pathol. Bacteriol. 35:323-32, 1932.
[St. Mark's Hospital, London, England]

There is currently much misunderstanding and confusion about the Dukes classification of colorectal cancer and its various modifications. Its origin is described together with an explanation of how it was meant to be used. Although the future may see changes, the original classification remains relevant in modern surgical practice. [The SCI® indicates that this paper has been cited in over 325 publications since 1955.]

Basil C. Morson and H.J.R. Bussey
Pathology Department
St. Mark's Hospital
London EC1V 2PS
England

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Cuthbert Dukes died in 1977 at the age of 86. He joined the staff of St. Mark's Hospital in 1922 and about 1927 began his classical studies on the pathology of cancer of the rectum, which earned him international recognition. The Dukes classification[1] has provided a sound basis for modern surgical treatment and is used throughout the world as a guide to prognosis.

Soon after World War I, there was growing interest in survival rates after surgery for rectal cancer, largely fuelled by the rivalry between those who favoured the Miles abdominoperineal excision with its high postoperative mortality and the more conservative operation of perineal excision favoured by J.P. Lockhart-Mummery of St. Mark's. Dukes believed that the two schools of thought might not be dealing with comparable series of patients and suggested to Lockhart-Mummery the idea of clinical staging.

In 1926 Lockhart-Mummery published his results,[2] but Dukes felt that this clinical classification was unsatisfactory and started work on the extent of spread of cancer as he found it in operation specimens.

Initially, he set up a classification into A, B, and C groups (with subgroups B1 and C1).[3] Around 1930 Dukes simplified this into A, B, and C categories because he was getting sufficient information about prognosis, and these results were published in 1932.

He continued to use the classification in cooperation with surgical colleagues and this culminated in a discussion held at the Royal Society of Medicine in 1957.[4] However, it is not widely recognised that the seminal publication by Dukes did not appear until 1958, when he introduced the C1 and C2 subgroups of lymph node spread, largely under pressure from his surgical colleagues.[1] It is this paper that should always be used as the major work of reference for the Dukes classification.

It must be emphasised that the classification in its final form did not include clinical data. It was designed as a pathological classification to compare spread of the disease as observed in surgical specimens with prognosis after surgical treatment. Subsequent modifications of the Dukes classification have varied so greatly from that described by him that it is quite inappropriate for them to be given his name. A current and extremely important article[5] has eloquently addressed the current confusion regarding the Dukes classification. It seems not to be sufficiently appreciated that the Dukes classification is neither a clinical nor a clinicopathological staging system, but was designed purely as a pathological classification.

We believe that the Dukes classification has survived the test of time because of its essential simplicity. Dukes did not ignore the importance of clinical data; rather he encouraged his surgical colleagues to subdivide their patients into those who had "curative" procedures and those who had a "palliative" operation. This simple distinction encompassed all important clinical and surgical data but was not incorporated in the A, B, and C staging system.

Dukes was a firm believer in the closest possible cooperation between surgeon and pathologist. Apart from his staging system, Dukes had an exceptionally wide range of professional interests.[6] He was a careful, accurate worker and put great effort into the writing of his papers, drafting and redrafting them until he got the exact words to express his meaning. A pencil and writing pad were always at his bedside should he awake and think of a better alternative to something he had already written. He will be remembered because his name is enshrined in this classification, but those of us who knew him personally recall his gentleness and whimsical sense of humour compounded of an inner tranquillity and wisdom.

1. Dukes C E & Bussey H J R. The spread of rectal cancer and its effect on prognosis. *Brit. J. Cancer* 12:309-20, 1958. (Cited 190 times.)
2. Lockhart-Mummery J P. Two hundred cases of cancer of the rectum treated by perineal excision. *Brit. J. Surg.* 14:110-24, 1926.
3. Gordon-Watson C. The treatment of carcinoma of the rectum with radium. *Brit. J. Surg.* 17:649-69, 1929-1930.
4. Dukes C E, Abel A L, Gabriel W B, Lloyd-Davies O V & Morgan C N. Discussion on major surgery in carcinoma of the rectum with or without colostomy, excluding the anal canal and including the rectosigmoid. *Proc. Roy. Soc. Med.* 50:1031-52, 1957.
5. Kyriakos M. The President's cancer, the Dukes classification, and confusion. (Editorial.) *Arch. Pathol. Lab. Med.* 109:1063-6, 1985.
6. Morson B C. Cuthbert E Dukes OBE MD MSc FRCS FRCPath DPH—1890-1977. *Ann. Roy. Coll. Surg. Engl.* 67:354, 1985.

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