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Axelsson U, Bachmann R & Hällén J. Frequency of pathological proteins (M-components) in 6,995 sera from an adult population.

Acta Med. Scand. 179:235-47, 1966.

[Depts. Internal Medicine and Clinical Chemistry, Univ. Lund, Malmö General Hosp., Sweden]

This paper presented a large-scale study of the occurrence of M-components in 6,995 people representing 79 percent of an unselected population above 25 years of age. The frequency and the Ig classes in different age groups were analysed. Sixty-four cases were given a full clinical examination. [The SC1® indicates that this paper has been cited in over 215 publications since 1966.]

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"In the early 1960s, many people at the General Hospital of Malmö were busy studying plasma proteins. Hällén and I worked in Jan Waldenström's department and Bachmann was in C.-B. Laurell's lab. It was known that elderly people often had M-components without associated disease. But how about the frequency outside institutions? I was at that time invited by the State Board of Mental Health to supervise the clinical part of a mass health screening project where every day blood was drawn from 300 'healthy' people. After some rather hard negotiations, we were allowed to draw an extra sample for plasma protein studies. The blood and I were 600 kilometres north of Malmö so we

had to arrange cool night train transports to Hällén in Malmö, who built a small 'factory' for paper electrophoresis outside the routine lab.

"Hällén notified me that he had identified 64 strips which had M-components, and I asked all 64 persons to come back for a clinical examination. All were very cooperative but sometimes embarrassed. The area of the study was scientifically virginal from a medical point of view and hitherto not used for population studies. So when I started to draw marrow from the sternal bone and ask for X rays of the skull, a certain excitement could be observed in the neighbourhood. When telling this, I like to point out that the area chosen for the study is not in the backwoods but in the heartland of the Swedish steel industry which has attracted for centuries working people of all kinds, thereby eliminating the risk of genetic isolation.

"One of the important results of the study was that we got knowledge of what was going on in the immune system of the total population and what a lot of apparently benign M-components are found when looking for one indicating malignant disease.

"I believe that the paper is frequently cited because it was the first sufficiently large study in its field that was thoroughly performed combining detailed chemical and clinical work. The latest follow-up was published in 1977."¹

1. Axelsson U. An eleven-year follow-up on 64 subjects with M-components. *Acta Med. Scand.* 201:173-5, 1977.