

Letters to the Editors

Comment on: “Ankylosing spondylitis: how diagnostic and therapeutic delay have changed over the last six decades”

Sirs,

In 2009, Salvadorini *et al.* (1) investigated the delay in diagnosis in patients with ankylosing spondylitis (AS) with a disease onset in the decades from 1950 to 2000 and published in this journal their wonderful results indicating that the delay in diagnosis essentially decreased from decade to decade since 1950 and reached an unbelievably low average of 2.08 years for patients with a disease onset in the decade between the years 2000 and 2009.

We are likewise convinced that rheumatologists have succeeded in effectively decreasing the delay in diagnosis in AS, mainly due to new imaging possibilities, in particular by using magnetic resonance imaging in recent diagnoses of AS. We are, however, not convinced of the quantitative results published therein (1).

The results Salvadorini *et al.* obtained can be summarised in the following way: for patients with a disease onset in the decade of 1960 and a diagnosis made in the following 49 years, the delay in diagnosis was shorter than 49 years (average 27 years). For patients with a disease onset in the decade of 1970 and a diagnosis made in the following 39 years, the delay in diagnosis was shorter than 39 years (average 12.4 years). And for patients with a disease onset in the decade of 2000 and a diagnosis made in the following 9 years, the delay in diagnosis was shorter than 9 years (average 2.08 years), as shown in Fig. 1.

The pitfall which was not regarded in this publication is called “right censoring” as described by Fries *et al.* (2):

Right censoring: Because many patients with recent-onset disease may not yet have received a correct diagnosis, subjects with long delay in diagnosis are preferentially eliminated. Thus the apparent delay in diagnosis is shorter than the true value that would be found by a prospective longitudinal study.

Illustrative diagrams explaining right and left censoring were published in the German literature (3). A diagram explaining right censoring based on a survey in 2008 among the membership of the AS patient organisation in Germany (4), is presented in Figure 2. According to Fig. 2, only few additional diagnoses of AS have to be expected in the future for the disease onset decades before 1980, and the average delays in diagnosis for these early disease onset decades (Table I) seem to be realistic approximations (and lower limits) for the true values. We also observe a dramatic decrease in the delay in diagnosis in these early disease onset dec-

Fig. 1. Dependence of the delay in diagnosis on the decade of disease onset (first symptoms), as found in the survey of 2009 (1), and theoretical limit (---) due to right censoring.

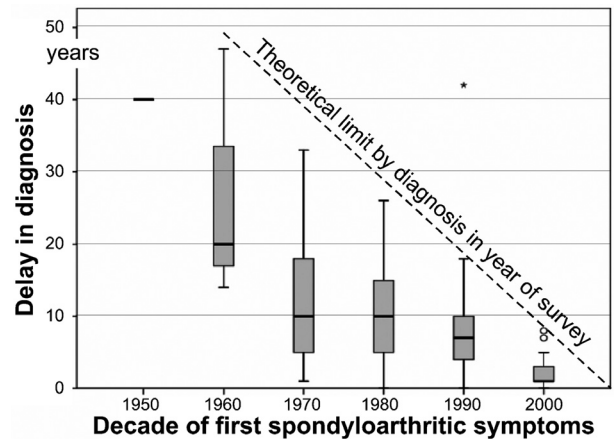


Fig. 2. Dependence of the delay in diagnosis on the year of disease onset (first symptoms), as found in a survey of 2008 with 4560 patients included who indicated their age at first symptoms and at diagnosis, with explanation of right censoring by indicating the year of diagnosis = year of disease onset + diagnosis delay.

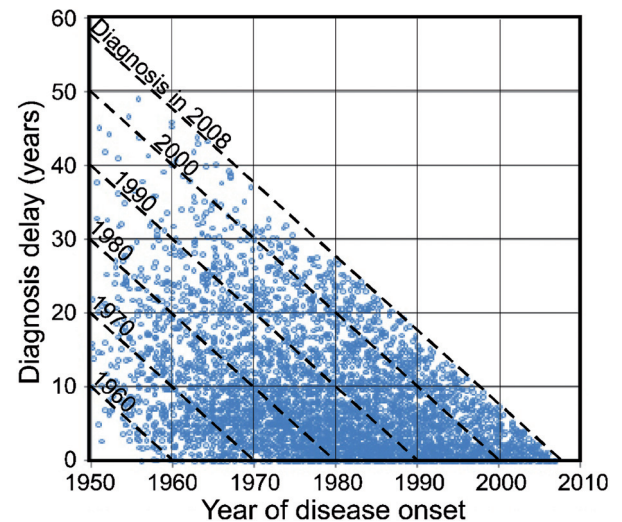


Table I. Average delay in diagnosis for patients with a disease onset (first symptoms) in the decades before 1980, as found in a cross-sectional survey in 2008, with 4560 patients (3071 male and 1489 female) included who indicated their age at first symptoms and at diagnosis.

Disease onset in	All patients	Males	Females
1940–49	20.5 years	18.5 years	26.9 years
1950–59	15.8 years	14.5 years	19.0 years
1960–69	12.5 years	11.2 years	16.3 years
1970–79	9.4 years	8.4 years	11.4 years

ades, similar to that reported by Salvadorini *et al.* (1).

A substantial number of additional diagnoses of AS are, however, to be expected in the future for the disease onset decades after 1980, and a further decrease of the delay in diagnosis in these decades cannot be confirmed by such a cross-sectional study, neither with Salvadorini’s data nor with ours.

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