THU0411

CLINICAL, ECONOMIC, AND HUMANISTIC BURDEN ASSOCIATED WITH DELAYED DIAGNOSIS OF AXIAL SPONDYLOARTHRITIS: A SYSTEMATIC LITERATURE REVIEW

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Background: Delayed diagnosis in patients with axial spondyloarthritis (AxSpA) has been shown to negatively impact disease prognosis and contributes to worse economic and quality of life outcomes; however, there is limited evidence available regarding the association of delayed diagnosis of AxSpA with the comprehensive burden of disease.
Objectives: To identify and summarize current published literature evaluating the clinical, economic, and humanistic burden associated with delayed diagnosis in patients with AxSpA.
Methods: This systematic literature review was conducted and reported according to the PRISMA guidelines (**Figure 1**.).[1] Publications were retrieved from the MEDLINE® (including MEDLINE® In-Process) and Embase® databases. English-language publications of original research articles (up to July 12, 2018) and conference abstracts (2014 to 2018) reporting studies of delayed diagnosis of adult patients with AxSpA associated with clinical, economic, or humanistic burden were eligible for inclusion. Abstracts from all records retrieved from the literature search were screened for eligibility by two independent reviewers (first-level screening); discrepancies between reviewers were resolved by a third independent reviewer. Citations that did not match the eligibility criteria and duplicates of citations were excluded at the abstract screening stage. Full-text publications underwent second-level screening as described for first-level screening. Data were extracted from all records that met the eligibility criteria after second-level screening.
Results: Of the 1391 publications retrieved, 21 studies from 13 countries (Argentina, Australia, China, Egypt, Korea, India, Iran, Ireland, Israel, Italy, Morocco, Turkey, and the United Kingdom) were included (**Figure 1**.); 15 reported clinical burden, 7 reported economic burden, and 4 reported humanistic burden (6 studies reported data on a combination of clinical, economic, and/or humanistic burden [**Table 1**]). Patients with delayed diagnosis of AxSpA generally had worse clinical outcomes, including higher disease activity (Bath Ankylosing Spondylitis Disease Activity Index), poorer mobility and physical function (Bath Ankylosing Spondylitis Functional Index), and more structural damage, compared with patients who had an earlier diagnosis (**Table 1**). Patients with delayed diagnosis also had higher healthcare costs, including costs of unnecessary treatments, and greater likelihood of work disability compared with those who had an earlier diagnosis (**Table 1**). Delayed diagnosis was associated with worse quality of life, including greater likelihood for depression and negative psychological impact (**Table 1**).

Abstract THU0411 –Table 1.

Table 1. Study Characteristics and Outcomes Related to Delayed Diagnosis of AxSpA

Ref	Patient Pop.	N	Study Type*	Impact of Diagnostic Delay
1	AS	281	C	Poorer sleep quality
2	AxSpA	1084	E	Delay of 3 years result in ≈ €153,000 in patient costs related to specialist visits and unnecessary drugs
3	AS	190	E	Greater likelihood of work disability
4	AxSpA	564	C	Longer delays were associated with higher prevalence of depression; patients with depression had worse QoL outcomes than those without depression
5	AS	163	C, H	Poorer QoL and function, more severe disease activity, and greater limitation of spinal and hip mobility
6	SpA	105	C	Worse clinical outcomes and poorer treatment responses in patients with SpA
7	AS	85	C	Worse outcomes in BASFI score and more radiographic damage
8	AS	256	C	Associated with severe hip disease in patients with AS; the severity of hip involvement was associated with functional status
9	AS/AxSpA	10	H	Negative psychological impacts including desperation, distress, depression, and feeling disheartened; employed patients felt stigmatized by the perception of a "bad back"
10	AS	106	C, E	Significantly worse mobility and work disability, both of which were highly dependent on age at diagnosis; however, no significant impact on BASDAI, BASFI or current TNFi use in this cohort
11	AS	60	C	Patients with a delay > 3 years had worse BASFI scores than those with a delay < 3 years
12	AS	92	C	No association with employment status or likelihood of biologic treatment
13	AS	147	C, H	No substantial impact on functional capacity, QoL, or radiographic damage in this cohort
14	AS	100	C	Significantly greater structural damage (BASRI) and severely limited spinal mobility in patients with a delay > 5 vs < 5 years; however, there was no correlation between diagnostic delay and disease activity
15	AS	127	C, E	Associated with significant economic burden with respect to treatment cost and employability
16	AxSpA	148	C	Patients with a delay > 1 year had a greater occiput-to-wall difference, indicating less spinal flexibility, than those diagnosed within 1 year
17	AS	59	E	The overall mean delay in diagnosis of AS was 7 years; longer delay in diagnosis was correlated with a greater likelihood of work disability
18	AS	121	C, E, H	Longer delay was associated with greater work disability
19	AS	70	C	Significantly worse BASDAI, BASFI, and BASMI scores
20	AS	111	C	No significant differences in BASDAI or BASFI scores between patients with a delay < 3 vs > 3 years
21	AxSpA	126	C, E	More doctor visits, more unnecessary spinal surgeries, higher direct healthcare costs, worse BASDAI, BASFI, and BASMI scores

* C, clinical; E, economic; H, humanistic.
AS, ankylosing spondylitis; ASAS, Assessment of SpondyloArthritis international Society; AxSpA, axial spondyloarthritis; BASDAI, Bath Ankylosing Spondylitis Disease Activity Index; BASFI, Bath Ankylosing Spondylitis Functional Index; BASMI, Bath Ankylosing Spondylitis Metrology Index; BASRI, Bath Ankylosing Spondylitis Radiology Index; HLA B27, human leukocyte antigen B27; QoL, quality of life; SpA, spondyloarthritis; TNFi, tumor necrosis factor inhibitor.

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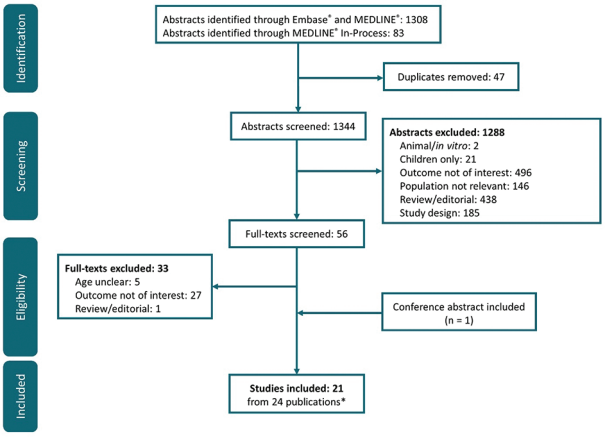
Conclusion: Delayed diagnosis in patients with AxSpA demonstrated a decrease in physical function, higher direct and indirect costs, and poorer quality of life. This study highlights the importance of early recognition and diagnosis of AxSpA in order to improve outcomes and mitigate extensive burden on patients and society. Therefore, further efforts by the healthcare community are warranted to increase awareness of early signs of disease and reduce the delay in diagnosis of AxSpA.

Figure 1. PRISMA Diagram for Study Selection



Searches were performed on July 12, 2018.
* 3 studies had 2 publications.

Abstract THU0411 – Figure 1

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Disclosure of Interests: Esther Yi Consultant for: E. Yi is a postdoctoral fellow at the University of Texas at Austin and Baylor Scott and White Health, providing services to Novartis Pharmaceuticals Corporation., Amit Ahuja Employee of: A. Ahuja is an employee of Novartis Healthcare Pvt Ltd., Tanvi Rajput Employee of: T. Rajput is an employee of Novartis Healthcare Pvt Ltd., Aneesh George Employee of: Aneesh George is an employee of Novartis Healthcare Pvt Ltd., Yujin Park Employee of: Y. Park is an employee of Novartis.
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22. Osteoarthritis

THU0412

LONGITUDINAL ASSOCIATIONS BETWEEN MRI-DEFINED INFLAMMATION AND PAIN IN THUMB BASE OSTEOARTHRITIS

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Background: : Hand osteoarthritis (OA) typically affects the interphalangeal (IP) joints and the thumb base (TB), including the first carpometacarpal (CMC-1) and scaphotrapeziotrapezoid (STT) joints. Based on previous studies, TB OA can be considered a distinct hand OA subset with a high burden of disease. In a cross-sectional study it was shown that TB pain is more strongly associated with radiographic damage than with MRI-defined inflammation, yet it is unknown if and how TB pain changes over time, and whether this is related to changes seen on imaging.
Objectives: Our aim was to investigate the course of TB OA pain and its association with changes in MRI-defined inflammation and structural damage.
Methods: Longitudinal data of the Hand OSTeoArthritis in Secondary care (HOSTAS) study, which included patients diagnosed with primary hand OA by their treating rheumatologist, were used. Patients who underwent hand radiography, MR imaging and clinical examination of the right TB at baseline and two-year follow-up were studied. Pain on palpation of the TB was assessed by trained research nurses (0-3). Baseline and follow-up MR images were scored paired in known time-order by two readers following the OMERACT TB OA MRI scoring system (TOMS). The CMC-

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