

Identifying Patient and Referral Characteristics for Improving Right-siting of Care for Rheumatology Patients



Low YS¹, Tan DMH¹, Yoong JKC², Low AHL², Chew LC², Fong KY², Thumboo J², Lim JFY¹

1. SingHealth Centre for Health Services Research, Singapore Health Services

2. Department of Rheumatology and Immunology, Singapore General Hospital

Introduction

The SGH Department of Rheumatology and Immunology sees patients with a wide range of conditions – from simple Arthritis to complex systemic disorders. While the patient load has grown, expansion of rheumatology services has not been commensurate. The resultant lengthening of waiting time may be detrimental to the complex cases that demand urgent attention. We reviewed a sample of case records to identify the patient demographics and referral characteristics associated with complex cases. This may aid in identifying patients requiring the fast-tracking process for appointment scheduling.

Methods

109 case records of referrals between July 2006 and August 2007 were reviewed using a checklist agreed upon by a panel of Rheumatologists. Cases involving Osteoarthritis of the hands (OA hands), Soft Tissue Rheumatism (STR) and uncomplicated Crystal Arthritis (CA) were classified as simple cases while others were classified as complex. Demographic and referral characteristics were analysed by Chi-square tests of independence for association with complex cases.

Simple cases are broadly defined as 'not requiring care by specialist and can be managed by family physicians.'

Complex cases care broadly defined as 'should only be managed at the specialist level.'

| Final Diagnosis | No of cases |
|--|-------------|
| Group: Arthritis | |
| Osteoarthritis of the knees | 16 |
| Rheumatoid Arthritis | 7 |
| Spondyloarthropathy | 7 |
| Complicated Crystal Arthritis | 4 |
| Joint and/or Back pain | 2 |
| Cervical/Lumbar Spondylosis | 1 |
| Palindromic Rheumatism | 1 |
| Group: Connective Tissue Diseases | |
| Systemic Lupus Erythematosus | 2 |
| Sjogren's Syndrome | 1 |
| Myositis | 1 |
| Group: Other Rheumatological Conditions | |
| Osteoporosis for BMD/treatment | 6 |
| Positive for Antinuclear Antibody (ANA) Test | 3 |
| Positive for Rheumatoid Factor Test (RF) | 3 |
| Signs and Symptoms Resolved | 3 |
| Osteopenia | 1 |

Table 1: List of Complex Cases (n = 72 patients)

| Final Diagnosis | No of cases |
|--|-------------|
| Group: Arthritis | |
| Osteoarthritis of the hands | 18 |
| Uncomplicated Crystal Arthritis | 9 |
| Group: Soft Tissue Rheumatism (STR) | |
| Trigger Fingers | 5 |
| Frozen Shoulder & Other Shoulder STR | 2 |
| Elbow Tendonitis | 2 |
| Fibromyalgia | 1 |
| De-Quervain's Tenosynovitis | 1 |
| Hamstring Strains | 1 |
| Plantar Fasciitis | 1 |
| Rotator Cuff Syndrome | 1 |
| Tendo-archilles Tendonitis | 1 |

Table 2: List of Simple Cases (n = 37 patients)

Results

There were 37 (33.9%) simple cases (OA hands: 18, STR: 10, CA: 9).

- The simple group consists of 70.3% female, 73.0% Chinese, 8.1% Malay, 16.2% Indian and 2.7% other races. Mean age was 50.9 years.

- The complex group was 65.3% female, 79.2% Chinese, 11.1% Malay, 8.3% Indian and 1.4% other races. Mean age was 54.0 years.

- There were no distinct demographic or referral patterns observed with complex cases. Age, sex, ethnicity and referral source were not significantly associated with case complexity.

| | Simple | | Complex | | p-value |
|------------------------------------|--------------------------|----------|---------|----------|---------|
| | Age ¹ (years) | SD=15.25 | 54.0 | SD=14.41 | |
| Female ² | 26 | 70.3% | 47 | 65.3% | 0.381 |
| Race² | | | | | |
| Chinese | 27 | 73.0% | 57 | 79.2% | 0.583 |
| Malay | 3 | 8.1% | 8 | 11.1% | |
| Indian | 6 | 16.2% | 6 | 8.3% | |
| Others | 1 | 2.7% | 1 | 1.4% | |
| Referral source² | | | | | |
| SingHealth Polyclinics | 13 | 35.1% | 25 | 4.9% | 0.766 |
| NHG Polyclinics | 3 | 8.1% | 10 | 13.9% | |
| SGH Medical Departments | 10 | 27.0% | 14 | 19.4% | |
| SGH Surgical Departments | 4 | 10.8% | 10 | 13.9% | |
| SGH A&E Department | 4 | 10.8% | 8 | 11.1% | |
| SGH (Unspecified) | 1 | 2.7% | 0 | 5.6% | |
| Others | 2 | 5.4% | 5 | 7.0% | |

¹ T-test

² Chi-square test

Table 3: Results of Statistical Analysis

Conclusion

Of the 109 case records reviewed, there were no demographic or referral characteristics associated with case complexity. The lack of identifying factors may hamper prioritization efforts to fast-track patients who require urgent treatment.

More second order patient characteristics such as clinical signs and symptoms, biochemical tests may need to be explored in order to successfully differentiate simple from complex rheumatological conditions.