

Clinical features of intraocular inflammation in Hokkaido University Hospital



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Objects

Clinical features of uveitis are influenced by environmental and life style changes as well as genetic or geographic factors.

In this study, the epidemiological trend of intraocular inflammation (uveitis) was examined among Japanese population in Hokkaido prefecture.

Methods

We retrospectively reviewed the medical records of 1616 uveitis patients (596 men, 1020 women) who newly visited Hokkaido University Hospital between 2004 and 2014 and assessed the current trend of etiology in comparison with that of our previous surveys.

Result 1: Characteristics of uveitis patients

New referral patients with uveitis

2004-2014

Total; 1616 (Male 596, Female 1020) / 11 years

Annual average; 147 patients/ year

Gender ratio (M:F) 1 : 1.7

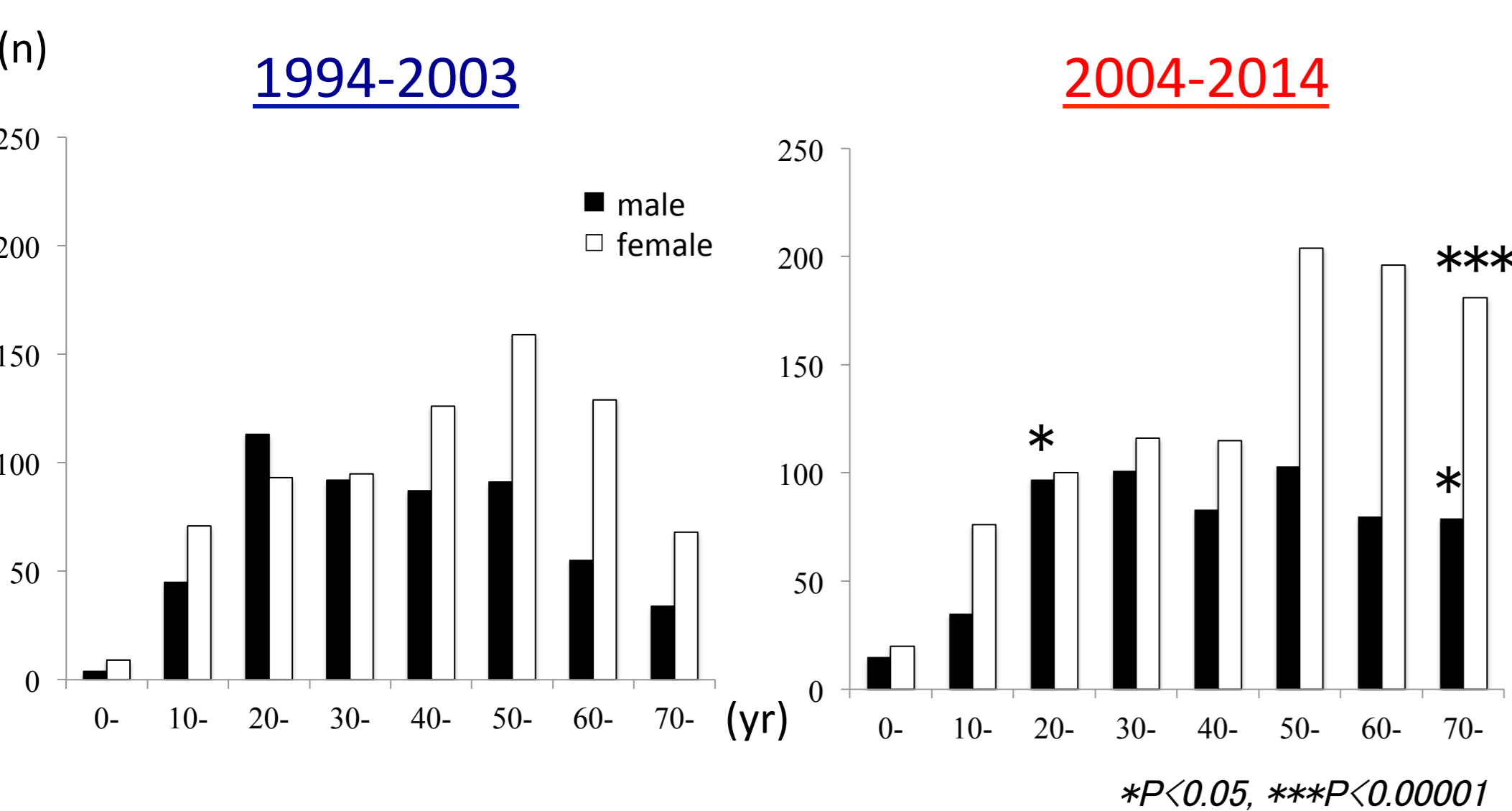
1994-2003¹⁾

Total; 1240 (Male 511, Female 729) / 10 years

Annual average; 124 patients/ year

Gender ratio (M:F) 1 : 1.4

Distribution according to sex and age



Average age 44.1 ± 18.2 years (1994-2003) / 49.8 ± 20.0 years (2004-2014)

Male 41.7 ± 17.8 (1994-2003) / 38.8 ± 21.4 (2004-2014)

Female 45.7 ± 18.3 (1994-2003) / 50.0 ± 19.9 (2004-2014)

In the last 11 years, the patients over 70 years of age increased and men aged in 20s decreased.

Frequent causes of uveitis

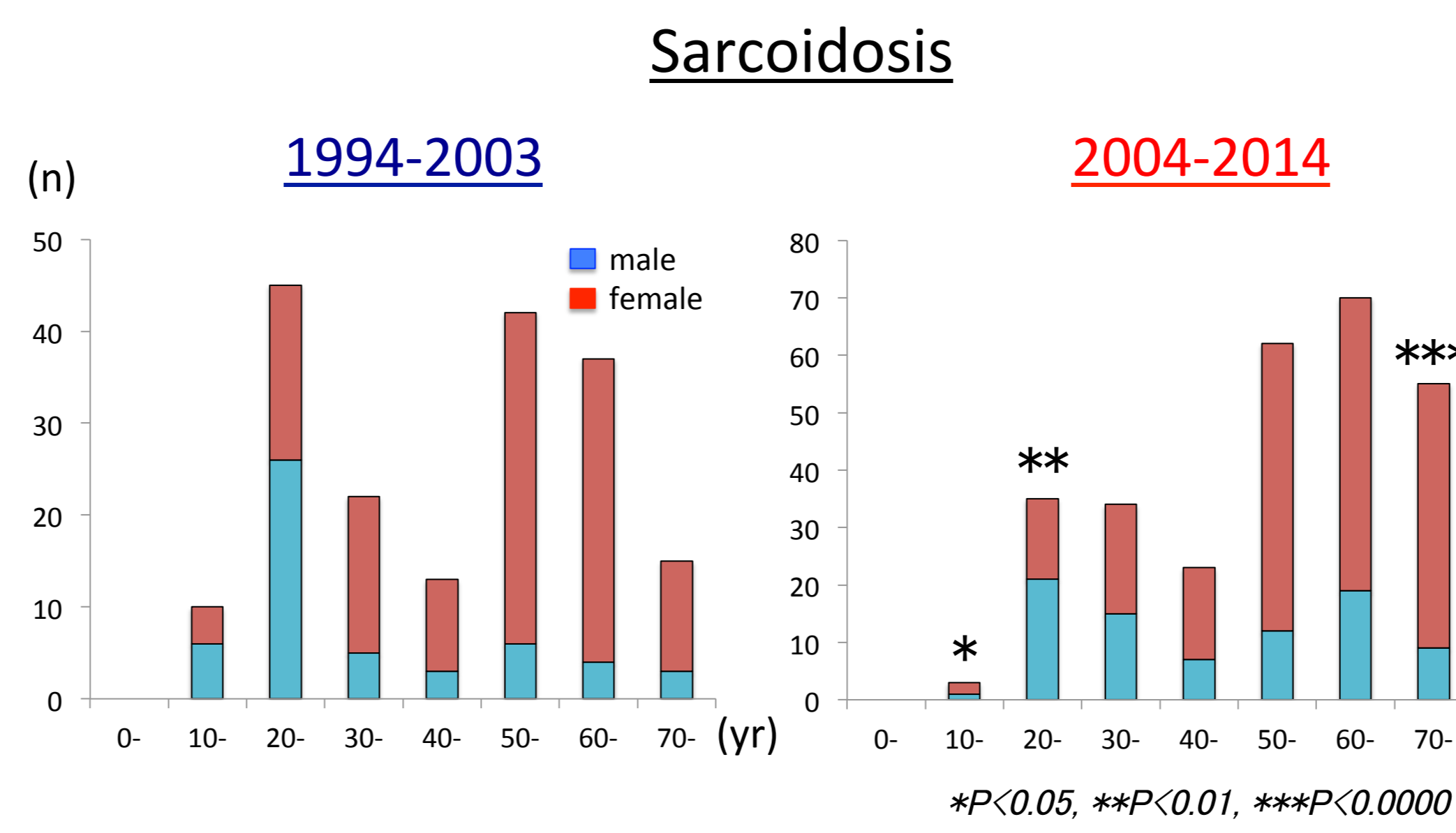
	1994-2003 (%)	2004-2014 (%)
1. Sarcoidosis	14.9	17.5
2. VKH disease	9.7	8.1
3. Behçet's disease	6.7	4.6
4. HLA-B27 associated uveitis	4.0	2.5
5. FHI	2.5	1.9
6. PSS	1.6	1.7
7. Acute retinal necrosis	1.5	1.7
8. Endoophthalmitis	1.5	1.3
9. VZV iridocyclitis	1.0	1.1
10. HAU	1.0	1.1
10. Masquerade syndrome		1.1
10. FHI		1.1

VKH disease: Vogt-Koyanagi-Harada disease
 VZV: Varicella Zoster Virus
 MEWDS: multiple evanescent white dot syndrome
 TINU: tubular interstitial nephritis and uveitis
 FHI: Fuchs' heterochromic iridocyclitis
 PSS: Posner-Schlossman's syndrome
 HAU: HTLV-1 associated uveitis

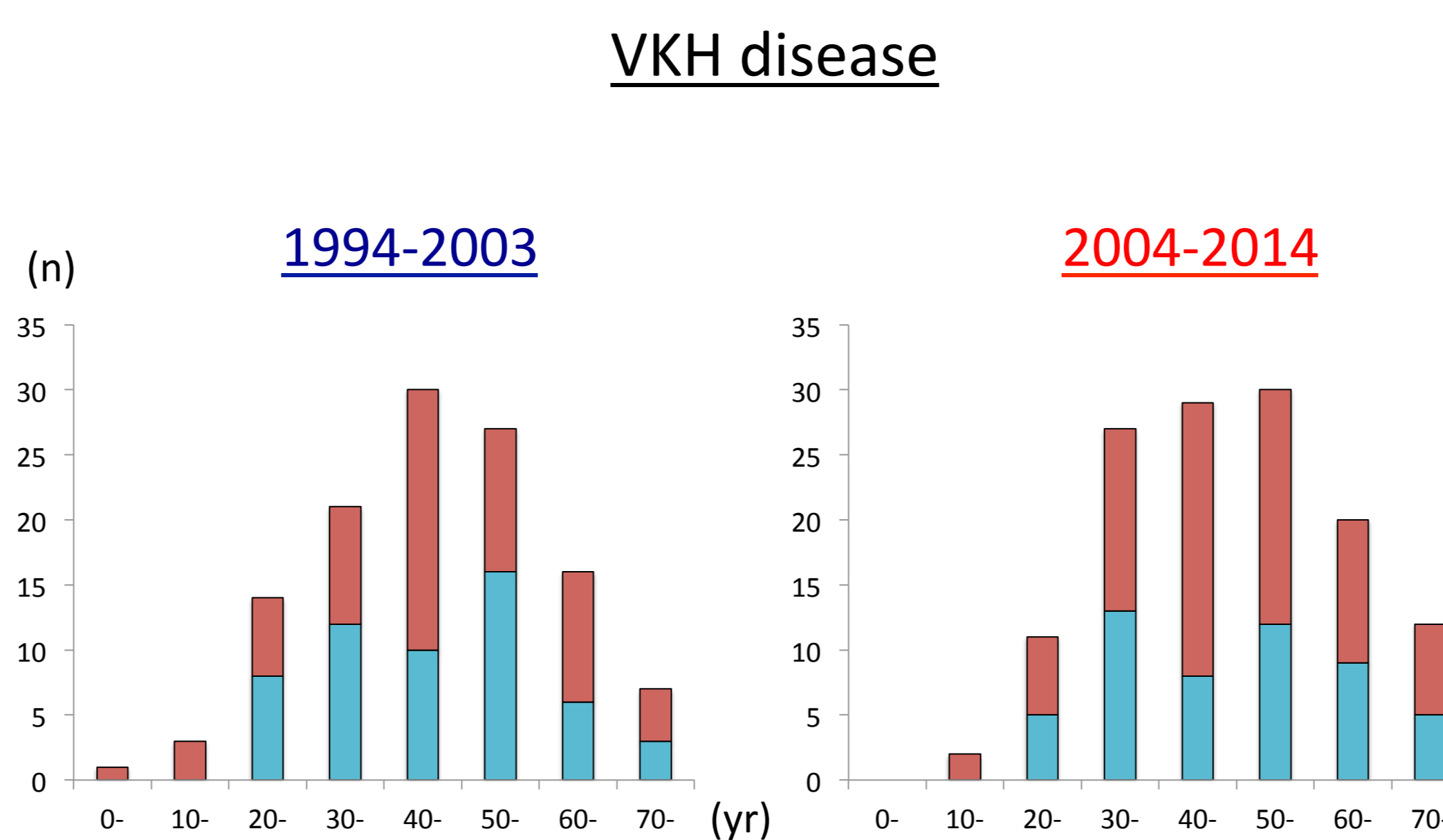
Sarcoidosis, Vogt-Koyanagi-Harada (VKH) disease, Behçet disease, and HLA-B27 associated uveitis have been the four most common etiologies, although frequencies differ by period.

Result2: Top 3 etiologies

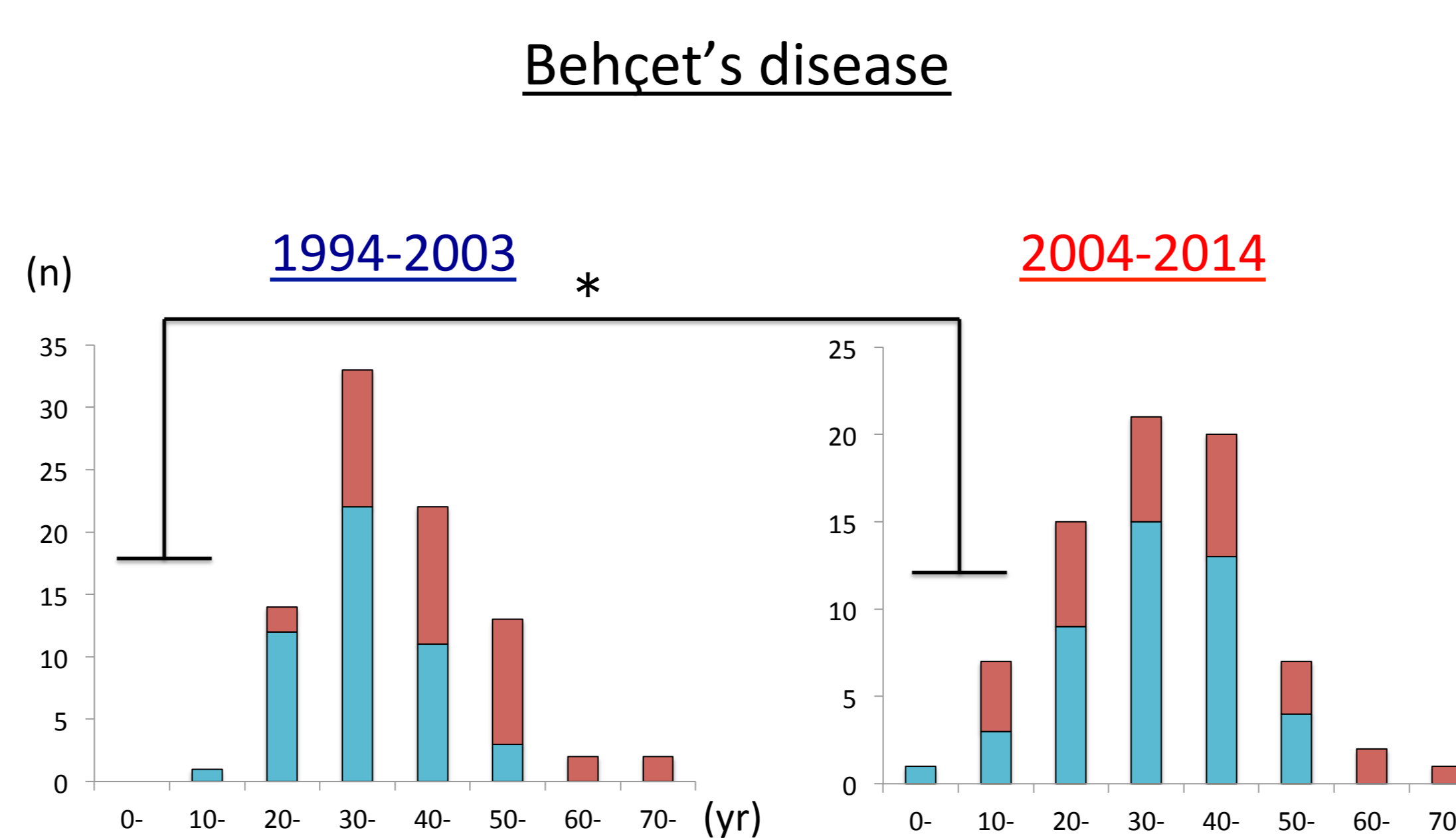
Distribution of uveitis patients according to sex and age



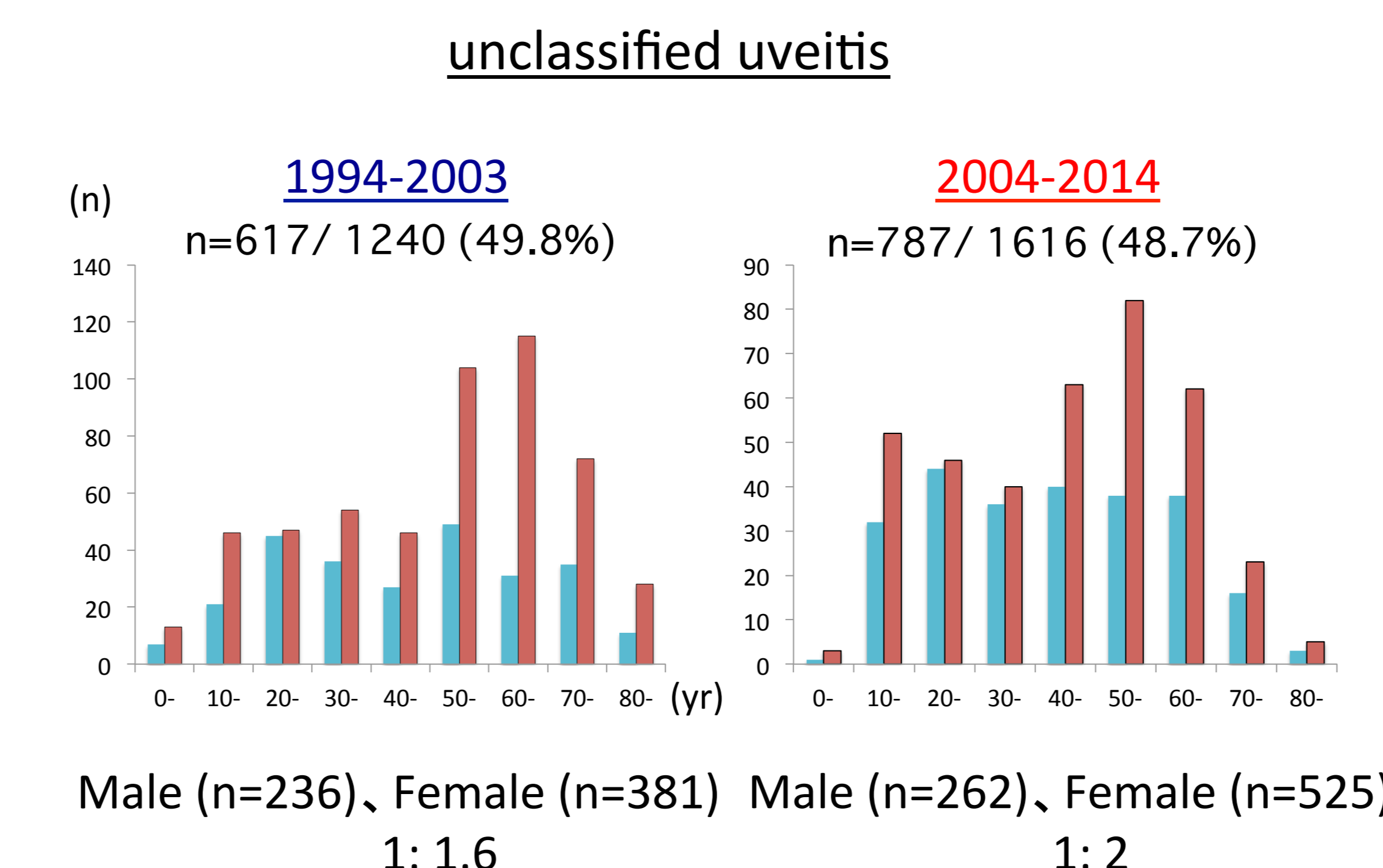
Sarcoidosis was the most frequent disease (17.5%) as a cause of uveitis. The patients significantly decreased in male under 30 yo and increased in female above 70 yo. Women had two peaks of disease onset, 20-30 yo and 50-70 yo.



The second most frequent etiology was VKH disease (8.1%). Women were more prone to develop VKH disease (60.3%) compared with men (39.7%). Those most susceptible to this disease were people aged 40-50 years. There was no significant change in the distribution of patients with VKH disease.



The third most common etiology was Behçet's disease (4.6%), which significantly increased in the patients under 20 years of age. The peak age for disease onset was 20-40 years. Young and middle-aged Japanese males may represent a Behçet's disease-prone population. We found a statistically significant greater number of male (60.8%) than female (39.2%) patients.



Male (n=236), Female (n=381) 1: 1.6
 Male (n=262), Female (n=525) 1: 2

ASII: 57.0% (1994-2003) / 44.2% (2004-2014)
 PSII: 4.9 (1994-2003) / 4.6 (2004-2014)
 CSII: 38.1 (1994-2003) / 51.2 (2004-2014)

ASII: anterior segment intraocular inflammations
 PSII: posterior segment intraocular inflammations
 CSII: combined anterior and posterior segment intraocular inflammations
 Unclassified uveitis was 48.7%, which was almost same rate with the previous study.

Discussion

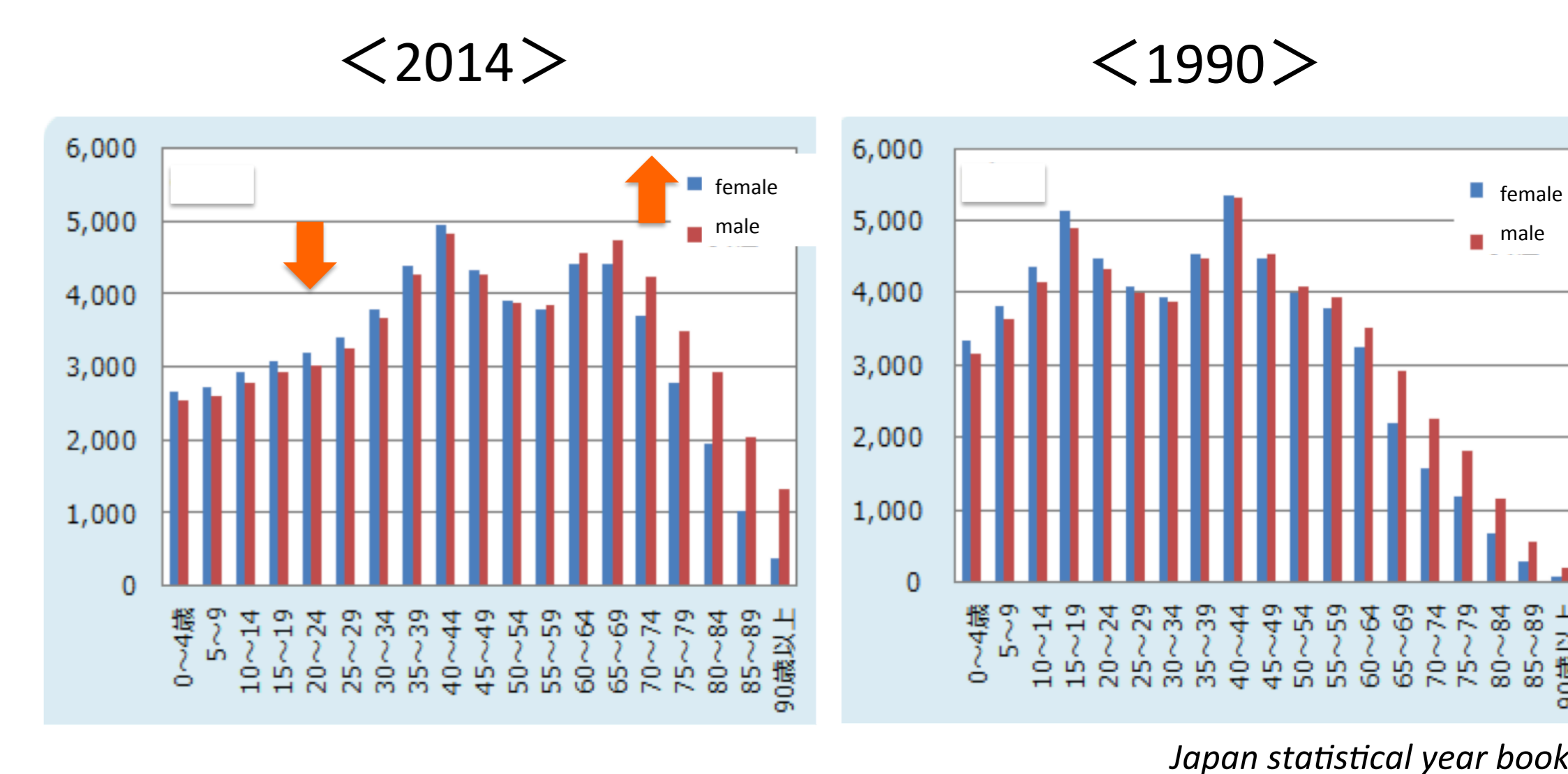
Correlation between age structure of population and distribution of uveitis patients according to age

In this study,

- The uveitis patients over 70 years of age increased and decreased in 20s.
- As in Sarcoidosis, the patients decreased in 20s and increased in female above 70 yo.

As shown in the below figure, Japanese population recently decreased in 20s and increased in 70s and older.

The change of distribution of uveitis patients was basically consistent with that of age structure of population in Japan.



The transition of top 3 etiologies of uveitis in Hokkaido University Hospital

	1966-1975 ²⁾	1981 ³⁾	1994-2003 ¹⁾	2004-2014
Behçet's disease	21.1%	14.5%	6.7%	4.6% ↓
Sarcoidosis	12.0	10.9	14.9	17.5 ↑
VKH disease	7.8	5.8	9.7	8.1 →
Unclassified	42.0	59.4	49.8	48.7

Behçet disease had been the most common endogenous uveitis in 1970s. However, its frequency gradually decreased to 4.6%.

VKH disease remained almost same frequencies during five decades.

Recently, sarcoidosis was the most common cause of newly diagnosed uveitis.

During the past 50 years, unclassified uveitis accounted for nearly half the uveitis cases.

As for the trend of these 3 etiologies, results of a nationwide survey in 2002⁴⁾ and between 2009 and 2010⁵⁾ were consistent with our present results.

Conclusion

The trend of uveitis cause has slightly changed in Hokkaido, Japan.

Behçet disease has been decreasing for the past five decades, and sarcoidosis has been increasing.

Between the periods 1994 - 2003 and 2004 - 2014, the order of top 4 etiologies has not been changed.

Reference

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