How long are adult patients with inflammatory eye disease maintained on systemic immunosuppression?

Sandwell and West Birmingham Hospitals NHS Trust

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Purpose

- There are no formal consensus guidelines for treatment withdrawal in patients with non-infectious, sight-threatening inflammatory eye disease (IED) on systemic immunosuppression
- It has been recommended that in non-infectious uveitis (NIU), the decision to withdraw systemic immunosuppression should be based on shared decision making that includes patient preference, tolerance of and risk resulting from the current treatment, duration of disease control, and the specific cause of uveitis[1]
- It has been proposed that NIU patients on non-alkylating agent immunosuppressive drugs should be treated for 24 months after discontinuing oral corticosteroids, while maintaining inactive disease; after that, an attempt can be made to taper and discontinue treatment[2]
- We wished to determine how long our patients with non-infectious, sight-threatening inflammatory eye disease (IED) are maintained on systemic immunosuppression whilst in clinical remission
- These data will allow us to better inform our patients and may assist in developing formal guidelines of when it might be safe to withdraw treatment

Patients and Methods

- Service evaluation (#1789, Sandwell and West Birmingham NHS Trust) of all adult IED patients on systemic immunosuppression attending the Centre for Inflammatory Eye Disease, Birmingham and Midland Eye Centre, a major UK tertiary referral Eye Unit
- Four IED groups were identified:
  - Ocular Surface Disease (OSD)
  - Corneal Transplant Survival Strategies (CTSS)
  - Scleritis
  - NIU
- The following information was captured:
  - The immunosuppressants and biologics used
  - Duration of treatment
  - Reasons for discontinuing, changing, or adding another medication
  - Whether the ocular disease is in clinical remission and if so, for how long, paying particular attention to patients who had been in remission for a minimum of 24 months
- Data were entered into a REDCap® database (Vanderbilt University)

Results

- A total of 303 IED patients were identified
- 82 patients were found to be no longer on treatment
- There were 133/221 (60%) patients on systemic immunosuppression who were deemed to be in clinical remission of their ocular disease for ≥24 months
- Of these 133 patients, 5 still required ongoing treatment for an underlying associated systemic disease, leaving 128 patients for analysis
- In the NIU group 18/62 (29%) patients were still taking prednisolone
- Demographic data, underlying aetiology, and duration of remission of the 128 patients is shown in Table 1
- Underlying causes for the four IED groups are shown in Table 2
- The commonest immunosuppressants and biologics used throughout the course of therapy were:
  - Mycophenolate mofetil 69.0%
  - Methotrexate 30.7%
  - Azathioprine 25.7%
  - Adalimumab 14.2%
  - Infliximab 5.0%
- One of the reasons for an immunosuppressant/biologic being discontinued was the patient stopping the treatment themselves without prior consultation with a healthcare practitioner
- This varied between 13.3-45.2% (mean 28%) depending on the drug, with mycophenolate mofetil being the commonest
- No patient developed a malignancy as a result of their treatment, but one OSD patient was diagnosed with carcinoma of the breast whilst on mycophenolate mofetil that was felt to be unrelated

Disease Group	**OSD**	CTSS	Scleritis	NIU
Number of patients	48	9	9	62
Gender Male:Female:Other	20:28:0	5:4:0	5:4:0	25:36:1
Age Mean (range) years	70 (30-91)	63 (33-81)	59 (20-80)	47 (16-75)
Duration of clinical remission Mean (range) months	67 (25-269)	56 (26-104)	82 (32-220)	69 (24-173)

Table 1: Data on 128 IED patients on systemic immunosuppression who are in clinical remission for a minimum of 24 months

OSD (48)	CTSS (9)	Scleritis (9)	NIU (62)
Ocular Mucous Membrane Pemphigoid (36), Peripheral Ulcerative Keratitis (5), Stevens-Johnson Syndrome (3), Atopic Keratoconjunctivitis (3), Pemphigus vulgaris (1)	Keratoconus (2), Fuchs' endothelial dystrophy (1), Iridocorneal Endothelial Syndrome (1), Microbial keratitis (5 – Herpes Simplex Virus 3, Acanthamoeba 1, Unknown 1)	Idiopathic (5), Rheumatoid Arthritis (2), Sarcoidosis (2)	Idiopathic (30), Sarcoidosis (7), Birdshot Chorioretinopathy (7), Juvenile Idiopathic Arthritis (6), Others (12)

Table 2: Underlying causes for each IED group

Discussion

- The mean duration of treatment for IED patients who are in remission for ≥24 months was almost 6 years with some patients on treatment 9-22 years, depending on their diagnosis
- Certain types of progressive OSD and patients on treatment for graft survival may require lifelong immunosuppression
- Of the 62 NIU and 9 scleritis patients in remission on treatment ≥24 months, 37 (60%) and 6 (67%) respectively, had been in remission for at least 4 years

Recommendations

- NIU and scleritis patients who have been in clinical remission for at least 18 months should be identified and considered for tapering and cessation of their systemic immunosuppression if they remain in remission for 24 months
- To encourage adherence, appropriate counselling is made available to discuss any concerns patients may have with their treatment

References

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Disclosures: None
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