Does informing patients about the link between dental hygiene and Rheumatoid Arthritis encourage better dental care?

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Background

- Periodontitis - common disease 10-60% population
- RA - 1% population
- Periodontitis and RA share:
  - Chronic inflammation
  - Mobilize immune mediators IL-1β, TNFα and IL6
  - Osseous erosions
  - Periosteal soft tissue damage
  - Similar cellular immune response
  - Common immunogenetic background


Background - What is periodontitis?

- Inflammatory condition of supporting structures of the teeth
  - Red, swollen gums
  - Unpleasant taste in mouth
  - Halitosis
  - Loose teeth
  - Regular mouth infections

Background

- RA patients have higher incidence of periodontal (gum) disease
- Periodontal therapy has a beneficial effect on RA
  - enhanced when pt’s taking anti-TNFα therapy
- Moderate to severe periodontitis is a risk factor in developing RA
- Periodontitis is a risk factor for cardiovascular incidents and CVA’s
- Functional impairment of hands – oral hygiene difficult
- Dry mouth – difficulty in chewing and increased risk of root caries
- Lack of access for many people in UK to NHS dental services

Reference:

Purpose of audit

2009 Audit
- To determine how many of our patients with inflammatory arthritis have regular access to dental care
- Intervention - Information leaflet on oral care for patients with inflammatory arthritis

2010 Audit
- To re-audit a sample of patients to determine how many patients had regular access to dental care and determine if the intervention had changed patients behaviour
Method – 2009 audit
All adult inflammatory arthritis (IA) pt’s attending the practitioner led clinics during 1 month period given simple questionnaire to complete

• Questions included:
  - Registered with dentist
  - NHS/private
  - Annual review
  - Hygienist
  - Use of electric toothbrush
  - Smoking habit

Method – Intervention
• Developed a dental hygiene patient information leaflet
  - British Dental Association and occupational therapists
  - Explained
    • Periodontitis (gum disease)
    • Link between RA and periodontitis
    • Link between periodontitis and MI and CVA’s
  - Importance of electric toothbrushes, dental tape and interdental brushes
  - How to register with NHS dentist

Method – 2010 audit
• 6 months after intervention
  All adult inflammatory arthritis (IA) pt’s attending the practitioner led clinics during 1 month period given simple questionnaire to complete

• Questions included:
  - Registered with dentist
  - NHS/private
  - Annual review
  - Hygienist
  - Use of electric toothbrush
  - Smoking habit
  - dental care leaflet

Results
2009
• 158 pt’s completed questionnaire
• Analysed using EXCEL
• Demographics – M:F 1:1.63
• Age range 25 – 90 (median 64)
• Diagnosis:
  – RA 129 RF+ve 107
  – AS 2
  – PsA 27

2010
• 146 pt’s completed questionnaire
• Analysed using EXCEL
• Demographics – M:F 1:1.65
• Age range 21 – 98 (median 62)
• Diagnosis:
  – RA 126 RF+ve 103
  – AS 5
  – PsA 15.

Results – annual review with dentist

Admitted to smoking
11/8/2011

Pt’s use an electric toothbrush

Pt’s that had dentures or partial plate 2010

Patient dental information leaflet 2010

Reasons for not seeing the dentist annually 2010

Dental costs in UK

Private dental care
- Exam 1st pt assessment $40 - $83 (£26 - £54)
- Hygienist $48 - $94 (£31 - £61)
- Amalgam Filling $65 - $120 (£42 - £78)
- Crown $618 (£399)
- Dentures $488 - $976 (£315 - £630)

NHS
- Band 1 $26 (£17)
- Band 2 £73
- Band 1 plus fillings, root canal work, removal of tooth/teeth
- Band 3 £316 (£204)
- Band 1 + 2 plus crowns, dentures and bridges

Conclusion
- Limitations
  - Affluent area
  - High % patients registered with dentist were private
- Leaflet led to minimal change in behaviour
  - Slight increase in people accessing dental care
  - Moderate increase in access to NHS
  - No increase in use of electric toothbrushes
Conclusion

• Further studies needed
  – Confirm link between RA and periodontitis
  – Compare access to dental health in UK in deprived area
  – Barriers to accessing dental care – cost and psychological

Thanks to the rheumatology nurse practitioners at Poole Hospital NHS Trust and the patients for completing the questionnaires