Gout: An alarm bell for diabetes and cardiovascular disease

Contributed by: The Counties Manukau DHB Māori Gout Action Group

IN NEW ZEALAND, gout is increasingly recognised as a chronic health condition with significant impact on individuals, whānau and communities. Evidence for poor management, consequent complications,[1] and qualitative evidence showing graphic impacts on the lives of patients and their whānau[2] prompted the formation of the Counties Manukau DHB Māori Gout Action Group (MGAG) in 2007.[3]

The MGAG identified five publicly held myths about gout and presented a plan with five interweaving strands aimed towards "outing gout" and moving towards 21st century management of gout.[3]

Five myths about gout:[3]

1. Gout is a relatively uncommon and minor condition compared to other priority issues that need attention.
2. Gout does not consume secondary care resources.
3. People who have gout bring it on themselves by drinking too much and eating the wrong foods.
4. Gout is a normal part of life, and you just put up with it.
5. Medicines for gout should be taken for acute attacks only.

21st century management of gout

The MGAG plan for the management of gout has five interweaving strands:[3]

1. Enhancing improved primary care management of gout.
2. Patient resource development.
3. A campaign to destigmatise gout as a tolerated disease.
4. Further research into the impact and causes of gout.
5. Strategic alliances to ensure that the treatment and prevention of gout is advocated by those working with conditions related to gout such as diabetes and cardiovascular disease.

Outing gout

A key initiative led by MGAG has been a series of "Outing Gout" hui in order to disseminate latest research knowledge on management and biological causes of gout, to a range of primary health care professionals and the wider community. The third hui ("Outing Gout 3") took place in March 2011, in partnership with Ngāti Porou Hauora at Pakirikiri Marae in Te Tairawhiti.

"Outing Gout 3" focused on the relationship between gout, cardiovascular disease and diabetes. Two epidemiological studies presented at the hui, demonstrate this relationship:

1) National prevalence of gout derived from administrative health data

Data first began to emerge over 15 years ago, that indicated a high prevalence of gout in New Zealand, particularly among people of Māori ethnicity. A recent New Zealand study, using administrative health data (hospitalisation and drug dispensing claims for allopurinol and colchicine) has provided a current estimate of the prevalence of gout.[4]

Main results from the study analysis included:[4]

- A crude prevalence rate of gout of 3.8% in people aged 20 years or older, representing approximately 115,000 affected individuals.
- A prevalence rate of gout of 9.6% in Māori men, 12.3% in Pacific men, 5.1% in European men and 3.5% in Asian men
- The prevalence rates of gout in women were three to four-fold less than in men.
- The prevalence rate of gout increased dramatically in older people –>30% increase for Māori and Pacific men aged over 60 years and >10% increase for European men aged over 60 years.

The study team identified some opportunities for intervention in patients with gout in order to reduce the risk of co-morbid conditions such as cardiovascular disease and diabetes. Interventions for primary care could include:

- **Whānau**. Engage whānau to support lifestyle changes and to support the patient to see their General Practitioner or Practice Nurse for CVD risk assessment.
- **Practice Nurses**. Target patients with gout for CVD risk and diabetes assessments. A study based at Middlemore Hospital has demonstrated that nurse-led interventions to assess and manage CVD risk in patients with gout are effective in improving uptake of preventative interventions.[5]
- **Pharmacists**. Refer people to their General Practitioner for a CVD check if they are asking about pain relief for their gout, as well as to discuss further management of their gout.
- **Measurements**. Measure uric acid regularly and document (i.e. graph).

2) Gout in patients with type 2 diabetes and impaired glucose tolerance: common and undertreated

The relationship between gout and type 2 diabetes was studied through analysis of the Diabetes Care Support Service register maintained by the Diabetes Projects Trust in Auckland.[6] The objective of this study was to determine the prevalence, associated clinical risk factors and current management of gout in patients with diabetes. A total of 18,446 people with diabetes or impaired glucose tolerance were included.

Key results of the study were:[6]

- The prevalence of gout was 1.0% in people with type 1 diabetes, 16.0% in people with type 2 diabetes and 13.3% in people with impaired glucose tolerance.
- In Māori and Pacific peoples with type 2 diabetes the prevalence of gout was 28.5% and 23.7%, respectively.

Clinical factors associated with an increased risk of gout in people with type 2 diabetes were; increased age, male gender, smoking, being overweight and poorer kidney

function. Conversely, clinical factors associated with a decreased risk of gout in people with type 2 diabetes (but not type 1 diabetes) were; increased HbA_{1c} and metformin treatment. The reason for this is unclear, but has been hypothesised to be due to polydypsia associated with diabetes increasing the renal excretion of uric acid.[7]

In a subset of 414 patients with gout and diabetes, 6.7% were achieving target serum urate levels, 51% were treated with allopurinol and only 33.6% had ever had their serum urate level tested.[6]

General Practitioners can improve gout outcomes in patients with diabetes, by indentifying through audit, patients with:

- Documented gout and no serum urate check in the last year
- Documented gout, serum urate >0.36 mmol/L, on allopurinol
- Documented gout, serum urate >0.36 mmol/L, not on allopurinol
- No documented gout, but serum urate ≥0.60 mmol/L (hyperuricemia can be associated with uric acid stones)

In summary: gout should be an indicator of CVD risk

Presentation of recent research findings at the "Outing Gout 3" hui emphasised the current high prevalence of gout in New Zealand, the increased risk of diabetes and cardiovascular disease in people with gout, and the high prevalence of gout in people with diabetes. It is clear to the MGAG that gout in New Zealand's unique population needs to be managed and researched in the context of co-morbidities and managing cardiovascular disease risk, using the whānau ora model. Equally important, however, is lobbying for the incorporation of gout and serum urate measurement into clinical algorithms and clinical management guidelines of co-morbid conditions. Gout can be regarded not just as a "nasty event" but also as an indicator of cardiovascular risk.

References

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