

Application of evidence-based criteria of appropriate aspirin and appropriate lipid-lowering therapy in diabetic inpatients

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Focal points

- Diabetes is a risk factor for cardiovascular disease *per se*
- Ninety-five per cent of diabetic inpatients aged over 30 years have one or more cardiovascular risk factors apart from diabetes
- Only half of diabetic inpatients aged 30 years or over receive appropriate statin therapy (statin, or no statin if contraindications documented) and statins are inappropriately omitted in half diabetic inpatients
- Two-thirds of diabetic inpatients aged over 30 years with additional cardiovascular risk factors received appropriate aspirin therapy (aspirin 75-325mg prescribed, or no aspirin if contraindications documented) and one-third inappropriately do not receive aspirin
- Pharmacists can identify diabetic patients and use objective, evidence-based criteria of appropriate statin and aspirin prescribing to assess appropriateness and identify patients receiving suboptimal therapy

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Introduction

Over two million people in the UK have diabetes and this is increasing.^{1,2} Cardiovascular disease accounts for two-thirds of deaths in diabetic patients and diabetes is a cardiovascular risk factor equivalent to manifest coronary artery disease.¹⁻⁵ Diabetic patients' lipid profile is highly atherogenic and the evidence supports statins in all, irrespective of baseline cholesterol levels.⁴ Aspirin (75-325mg) prevents cardiovascular events in high risk diabetes patients aged over 30 years.⁵ This work aimed to assess the appropriateness of statin prescribing in diabetic inpatients over 30 years and to assess the appropriateness of aspirin prescribing in diabetes patients aged over 30 years.

Method

Criteria of appropriate prescribing for diabetes patients aged over 30 years were defined from the published literature. Statin contraindications (or acceptable non-use) included liver disease, previous myopathy with statin, and hypersensitivity. Aspirin contraindications included peptic ulceration, clotting disorder and hypersensitivity. Cardiovascular risk factors included large vessel disease, hypertension, smoking and age over 30 years.

Statin prescribing was appropriate if a statin was prescribed, or if no statin was prescribed in the presence of contraindications. Prescribing was inappropriate if no statin was prescribed in the absence of contraindications. Aspirin prescribing was appropriate if patients had risk factors, no contraindications and were prescribed aspirin, or had contraindications and were not prescribed aspirin.

Diabetic inpatients were identified by hypoglycaemic drugs on drug charts. Prescriptions were noted. Patients' clinical records were screened for cardiovascular risk factors and contraindications.

Results

Of 721 inpatients screened, 106 (14.7 per cent) were identified as having diabetes. Six were aged under 30 years and four patients' notes were not available, leaving 96 patients with diabetes. Median age was 71 years, 51 (53 per cent) were male. Total cholesterol or a lipid profile were available for only 61 (64 per cent) patients. Of 28 patients for whom urinary albumin excretion was available, 25 (89 per cent) had microalbuminuria or albuminuria. Almost all patients had risk factors other than diabetes and age over 30 years (Table 1).

No patients received fibrates and 41 (43 per cent) were prescribed statins. Overall 49 (51 per cent) patients were prescribed appropriate statin therapy and 63 (66 per cent) received appropriate aspirin therapy.

Table 1 Statin and aspirin prescribing for diabetic patients

	Number of patients	
<i>Diabetic inpatients</i>	96	(100%)
Hypertension	54	(56%)
Large vessel disease (eg, PVD, IHD, stroke)	40	(42%)
Hyperlipidaemia	39	(41%)
Smoke	27	(28%)
Albuminuria or microalbuminuria (>20mg/L)	27	(26%)
Obese	16	(17%)
Family history positive for CHD	13	(14%)
Risk factors present other than age >30 and diabetes	91	(95%)
<i>Prescribed statin</i>	41	(43%)
Statin contraindicated (or valid reason for non-use)	8	(8%)
Inappropriately not prescribed statin	47	(48%)
Appropriate statin therapy	49	(51%)
<i>Prescribed aspirin</i>	46	(48%)
Aspirin contraindicated (or valid reason for non-use)	17	(18%)
Inappropriately not prescribed aspirin	33	(34%)
Appropriate aspirin therapy	63	(66%)

Discussion

Diabetes is associated with significant mortality and morbidity. Most of the cost of treating diabetes is from long-term complications. The NSF for diabetes emphasises prophylaxis of complications.¹ Although almost all diabetic inpatients had cardiovascular risk factors, one-third to one-half received inappropriate statin or aspirin therapy.

Criteria presented here are objective, simple to use, and evidence-based prescribing for diabetic patients. Pharmacists can rapidly assess prescribing appropriateness and identify patients receiving suboptimal therapy.

References

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