

Audit of cardiovascular risk management in a DGH

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Aims:

Management of cardiovascular risk is at the heart of diabetes care and is central to improving mortality in diabetics than glycaemic control itself. We aimed to assess overall cardiovascular risk management in our diabetic population.

Materials and Methods:

Case records of type 2 diabetic patients attending the hospital clinic were randomly selected. Data was collected for HbA1c, Lipid profile, Blood pressure, BMI, anti-diabetic, anti-lipid and anti-hypertensive use for the same patients over a 5 year period (1998-2002). 123 type 2 diabetics (65 males), with a mean age 63.5 years (range 28-82) were evaluated. The average duration of diabetes was 10 years (range 5-31)

Results:

Glycaemic Control

53% of patients had suboptimal glycaemic control ($\text{HbA1c} \geq 8$) in 2002 compared to 43% in 1998 ($p=0.87$). The average values for HbA1c over the 5 years; 1998, 1999, 2000, 2001 and 2002 were 8.3, 7.9, 7.8, 7.9, and 8.2 respectively. 9% remained on diet treatment in 2002 compared to 14% in 1998. Glycaemic control was similar in the elderly (>65 years age) and younger population.

Obesity

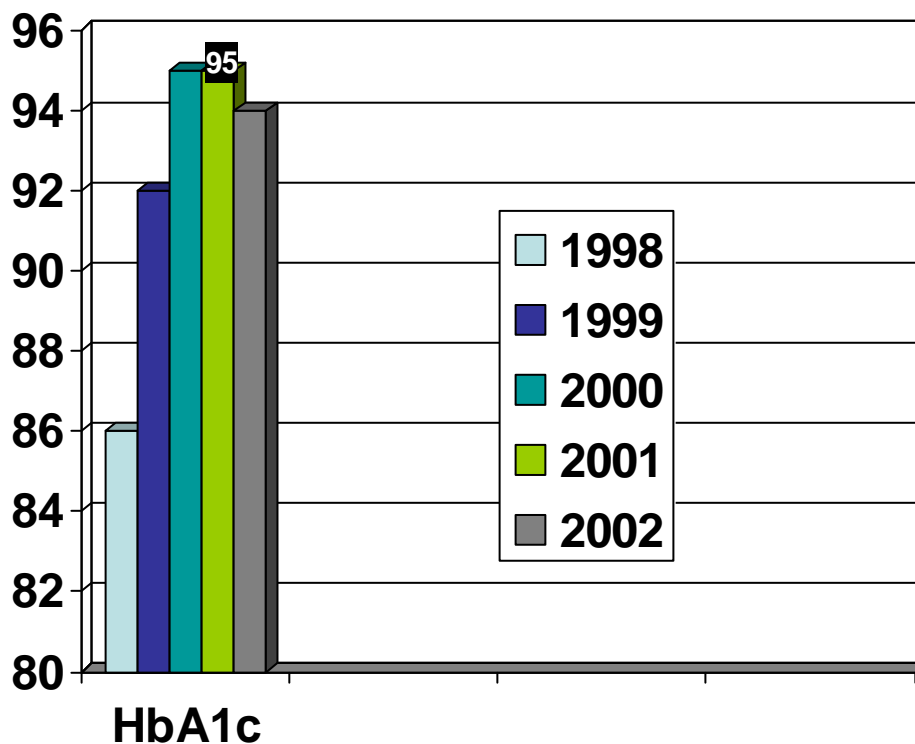
Morbid obesity ($\text{BMI} \geq 40$) rates rose from 8 to 10.4% [$p=0.28$] and obesity ($\text{BMI} \geq 30$) rates from 47 to 52% [$p=0.66$]. In 1998 and 2002, similar numbers (79% and 78%) of overweight ($\text{BMI} \geq 25$) and obese ($\text{BMI} \geq 30$) patients (85% and 85%) were treated with Metformin. The mean dose of Metformin in 2002 was 1678 mg. 20% of obese ($\text{BMI} \geq 30$) patients were on a glitazone in 2002. One third of obese patients had less than ideal glycaemic control ($\text{HbA1c} \geq 8\%$) with a third of these already on two other oral agents

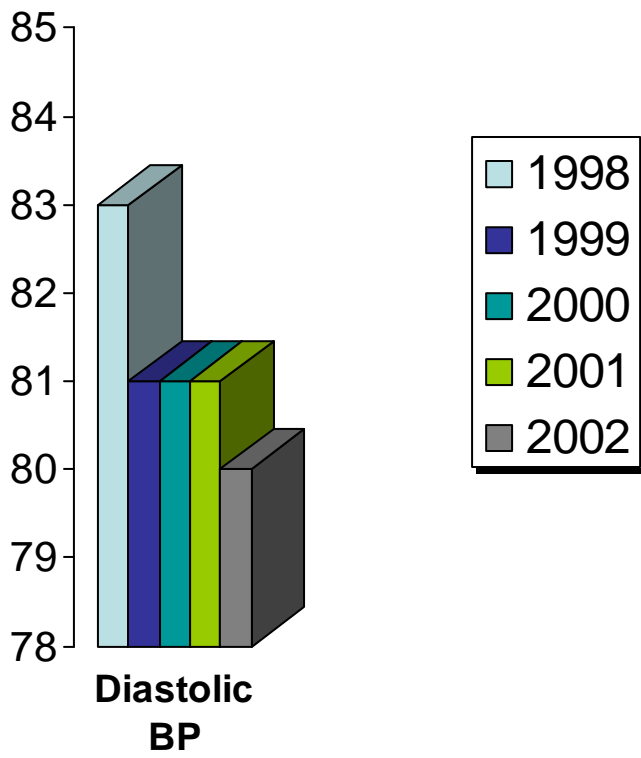
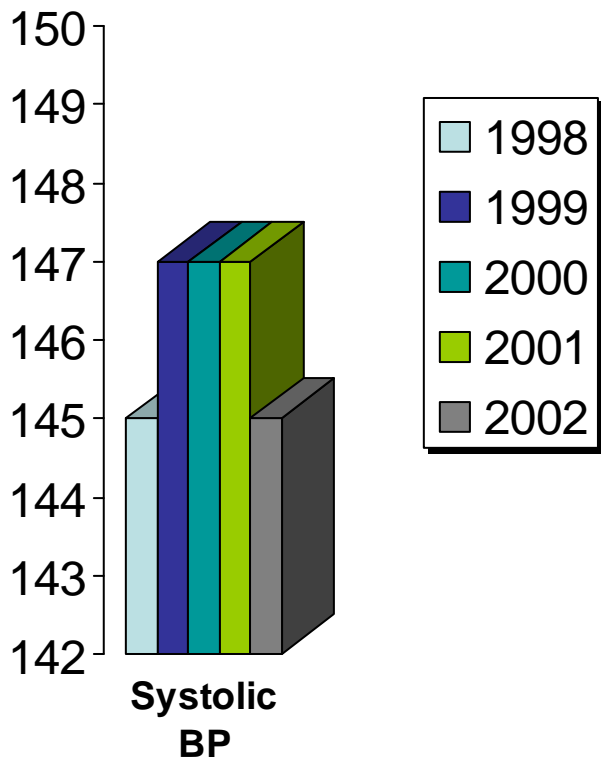
Lipids

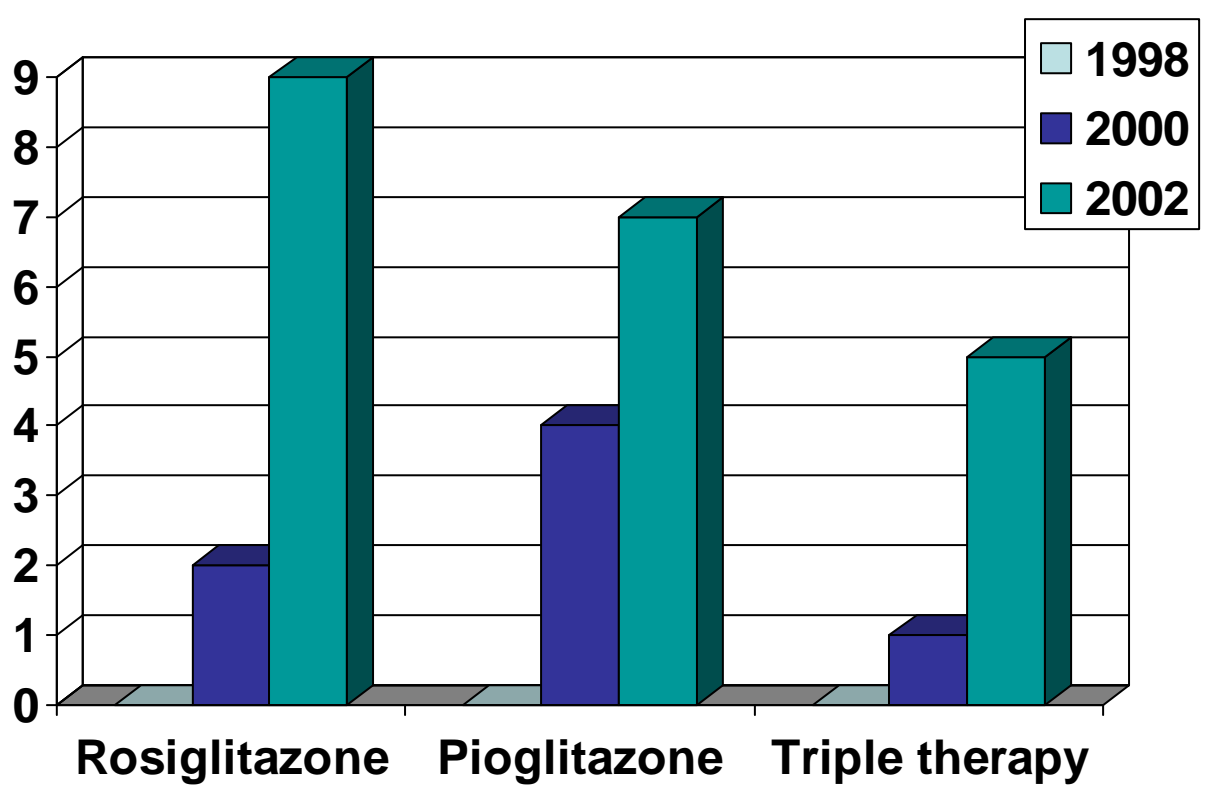
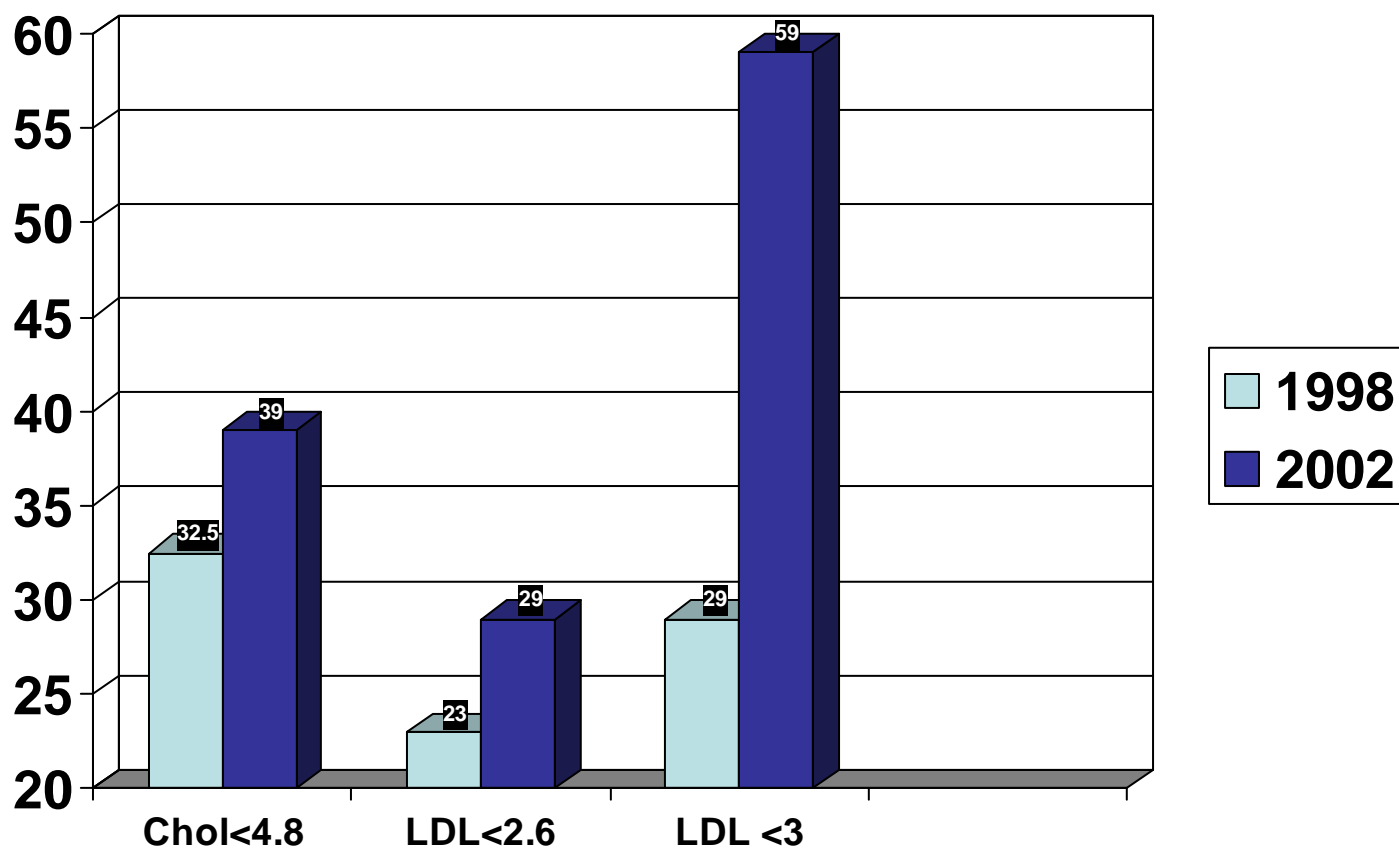
Total cholesterol values were available in 69 and 66% in 1998 and 2002 while a full lipid profile was available in a similar number (45%). In 2002, 30% reached LDL targets recommended in the ATP-III guidelines ($\text{LDL} < 2.6$) while 60% attained LDL targets if NICE guidelines were used ($\text{LDL} < 3$). HDL target (≥ 1) achievement improved over the 5 years (89% vs. 96%) [$p=0.047$]. 67% achieved triglyceride targets (< 2.3) in 1998 vs. 82% in 2002 [$p=0.057$]. All three lipid targets were achieved in 24% in 2002 compared to 14% in 1998. In 1998 and 2002, 65% and 68% of eligible diabetics (total cholesterol > 5.0) were on a statin. Statin use increased 1.65 times by 2002, rising from 35% to 58%.

Blood Pressure

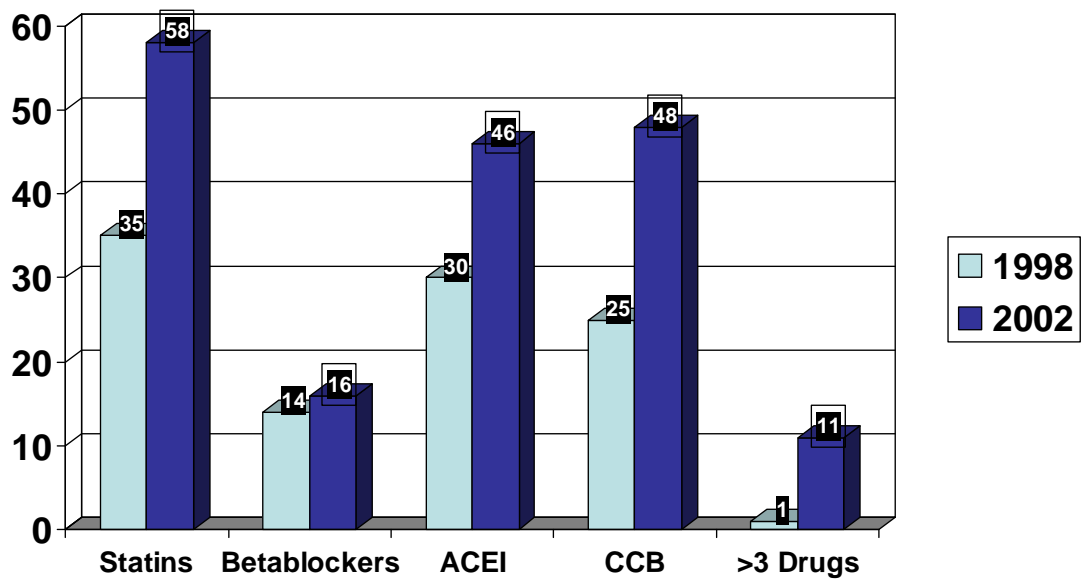
98% had yearly BP measurements. Systolic BP <140 was achieved in 48 and 58% in 1998 and 2002 and diastolic BP <80 in 61 and 71% in the respective years [p=0.032]. 11% were on 3 or more antihypertensives. Beta-blocker use remained unchanged, ACEI use increased 1.5 times (30.6% vs. 46.7% in 1998 and 2002), and CCB use doubled. Angiotensin receptor blockers were underutilised (none in 1998 vs. 4% in 2002). All three cardiovascular risk targets (BP <130/85, HbA1c<8.0; Cholesterol<5, Triglycerides <2.3) were achieved in 8% and 6% in 1998 and 2002.







Antihypertensive and statin use 1998 vs. 2002



Conclusions:

Blood pressure monitoring but not lipid monitoring is acceptable. Less than half have optimal glycaemic control. Indeed, HDL assessment, and LDL and systolic BP targets need to be attained. Glitazones and angiotensin blockade may help achieve this.