

Background

United Kingdom National Guidance outlines for clinicians when to consider referral to Cardiovascular Risk clinics including for assessment of Familial Hypercholesterolaemia (FH) and hypertriglyceridaemia. However prior to referral, clinicians are advised to exclude secondary causes by checking liver function, urea and electrolytes, thyroid-stimulating hormone, HbA1c and alcohol intake .

Due to the COVID-19 global pandemic, it has been essential to reduce elective work within the Scottish National Health Service and therefore the Cardiovascular Risk clinics have had a period of no face-to-face consultations. However, risk factors possibly associated with poorer outcome in COVID-19 include cardiovascular disease (CVD), diabetes and raised body mass index (BMI) and this is another reason it remains vital to continue managing patients' risks.

Aim

To review the Cardiovascular Risk clinic referrals to the Clyde clinic, NHS Greater Glasgow and Clyde to establish whether: national guidance on referrals were followed; secondary causes of dyslipidaemia excluded; and if improvements could be made to triage patients.

Method

New patient referrals from 1 January 2018 to 31 December 2019 were evaluated. The exclusion criteria was patients referred to the incorrect geographical area, incorrect specialty and duplicate referrals. For subgroup analysis investigating if secondary causes of dyslipidaemia were excluded prior to referral, additional exclusion criteria included patients with known FH and clinical signs of dyslipidaemia on examination. Secondary causes were split in to five categories; recent thyroid function tests, glucose or HbA1c and albumin as a marker for nephrotic syndrome within the preceding 3 months and BMI and alcohol intake within the preceding 6 months.

Results

Table 1: Population characteristics

Demographics	
New eligible referrals, n	184
Median time to clinic appointment, days	70
Median age, years	55
Female, %	54

There were 184 eligible new patient referrals to the Clyde Cardiovascular Risk Clinic with 158 from primary care and 26 from secondary care services. Of these referrals, 121 patients (66%) were allocated to a clinic appointment and 63 (34%) received written advice.

The most common reasons for referrals were hypercholesterolaemia (42%), mixed dyslipidaemia (19%) and intolerance to lipid lowering therapy (Table 2).

The most common management outcome of appointment were statin monotherapy (55%), lifestyle changes only (11%) and genetic testing only (10%).

On subgroup analysis, 166 referrals were evaluated to determine if secondary causes were excluded prior to clinic referral (Figure 1). Only 40% had excluded nephrotic syndrome, poor glycaemic control and hypothyroidism within the preceding 3 months. 9% had a normal range BMI recorded within 6 months. Only 1% had all five causes excluded.

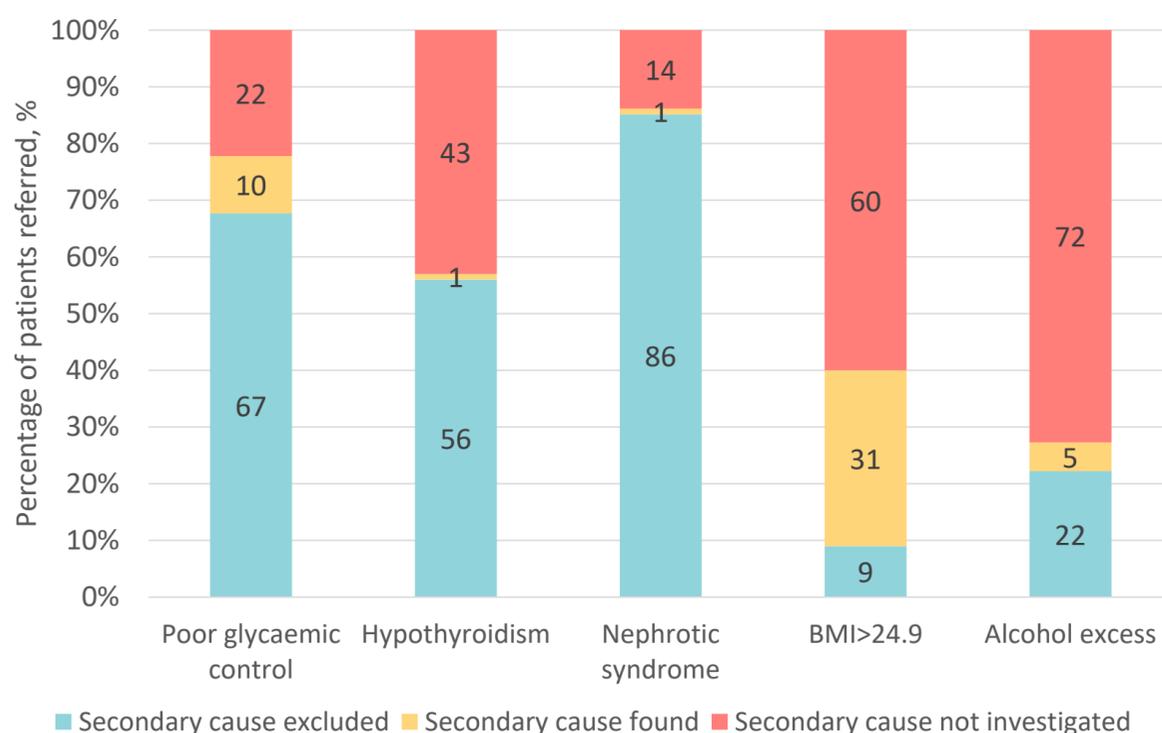
Table 2: Referral reason for referral to clinic

Referral reason	Patients, n (%)
Hypercholesterolaemia	77 (42)
Mixed dyslipidaemia	36 (19)
Lipid lowering therapy intolerance*	31 (17)
Known Familial Hypercholesterolaemia	15 (8)
Hypertriglyceridaemia	12 (7)
Other reason**	11 (6)
Xanthelasma	2 (1)

*Therapy intolerance included 32% musculoskeletal issues, 29% unknown reason, 19% deranged liver function tests, 10% other reasons including hair loss, headache, skin reaction, diarrhoea and 3% raised creatine kinase on treatment

**Other reason included premature personal CVD, patient request, medication query, baseline raised creatine kinase

Figure 1: Overview of secondary causes investigated prior to clinic referral



Conclusions

CVD, diabetes and raised BMI are associated with increased risks of various health conditions but now may also be associated with poorer outcome in COVID-19. Therefore it is essential to continue managing patients' risks. As expected, hypercholesterolaemia was the most common referral reason but few patients had secondary causes of dyslipidaemia excluded. This raises the question if a standardised approach to referrals regarding secondary causes could be utilised thereby improving patient triage and management of secondary causes.