Background
Optic disc haemorrhages are often seen as a splinter-shaped haemorrhage at the disc edge, especially in open-angle glaucoma (OAG).

Although the aetiology remains unclear, the literature suggests that they are associated with progressive glaucomatous optic nerve damage and visual field deterioration. 1 2 3 It is also known that people who suffer from diabetes and hypertension have an increased risk of developing OAG. 3

Therefore, we reviewed the outcome of the diabetic retinal screening service (DRSS) referrals to our glaucoma clinic due to detection of disc haemorrhage on retinal photography.

Methods
The study is a review of records of 18 consecutive patients who were referred due to optic disc haemorrhages by the local DRSS to the glaucoma clinic of James Paget University Hospital (JPUH), during the year 2011.

JPUH provides annual retinal screening to a total of approximately 22,000 patients living in East Norfolk and North Suffolk; nearly all patients are of White British ethnicity.

Results
Age and sex distribution of the study sample are shown in Figure 1. There were 22% male and 78% female patients. Mean age was 73 years (SD 10.4, range 51-87).

The majority of the patients (72%) had best corrected vision acuity of 6/6-6/7.5 (Snellen chart) in the affected eye.

![Figure 1. Age and sex distribution of 18 referred patients](Image)

![Figure 2. Family history of glaucoma in 18 patients](Image)

![Figure 3. Control of diabetes* in 18 patients](Image)

![Figure 4. Control of blood pressure* in 18 patients](Image)

![Figure 5. IOP of the eye with the disc haemorrhage in 18 patients](Image)

![Figure 6. Presence of disc haemorrhage, PVD and the time of referral in glaucoma clinic of 18 referred patients](Image)

![Figure 7. Outcome of referral in 18 patients](Image)

It was found that 39% had central corneal thickness between 555-590μm, 17% below 555 μm, 17% above 590μm and in 28% it was not recorded. Gonioscopy assessment showed 360° open angles in 72% of the cases, occluded in 6%, partially occluded in 6% and in 17% there were no records. Automated static perimetry was performed in 89%, out of which 25% were found to be outside normal limits.

None of the referred patients was on glaucoma treatment before.

Discussion
Previous studies have documented disc haemorrhage as a negative prognostic factor more in normal tension glaucoma (NTG) than in other types. 4 Prevalence of OAG appears to be higher in diabetic populations by a factor of about 2 in the majority of population-based surveys. 5 The results of this study reflect the majority of our patients had uncontrolled diabetes and blood pressure (>70%). IOP was normal in all the patients. More than half of them (56%) needed follow-up in the glaucoma clinic, some of them having been started on anti-glaucoma treatment and others having optic disc changes or visual field defects.

Conclusion
The study reports the importance of glaucoma work-up to rule out NTG in patients with incidental findings of disc haemorrhage during screening for diabetic retinopathy.

References

Follow-up of optic disc haemorrhages referrals from DRSS (Diabetic Retinopathy Screening Service) to glaucoma clinics
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