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Research Article,

New Proforma for Intravitreal Injection Clinics

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Abstract:

Macular clinics are becoming of the busiest clinics in eye units. A smooth flow of patients is required to manage the work load for patients and staff. It is essential to use necessary steps that has implication on clinical decision making and to abolish any unnecessary step that is like to hinder the smooth flow of patients. Authors describe their experience on what they find a good proforma to use in the macular clinics to facilitate the easy running of a busy service.

Keywords: AMD, BRVO, CRVO, DMO, OCT, ERM, Lucentis, Eylea, Iluvien, Ozurdex.

Introduction:

Intravitreal injections clinics are become extremely busy in different eye centers providing such treatment. Intravitreal injections were rolled out initially for neovascular age related macular degenerations. However, more retinal condition are being treated with intravitreal injection. Such conditions include, diabetic macular edema, retinal vein occlusions as well as many other less common conditions such as Central serous retinopathy and postoperative cystoid macular edema.

Objective:

With such a heavy load on the clinic it is essential to have a smooth flow of patients and not to be hindered by slow operation of the clinic.

Discussion:

Vision: Visual acuity is one the factors that can be assessed every time a patient is seen in injection clinics. It is also one of the most stressful moments for most patients. Also the nurse or health care assistant taking vision often volunteers to tell patients that they saw one letter more or less. Perhaps it is something that is done routinely just to keep the conversation going. However it has the implication on the patient that it has some significant whether they saw a letter more or a letter less. Also many patients who had no complaint before coming to the clinic become disappointed when they see less letters while they had no recollection of any sight deterioration before coming to the clinic. The author checks vision only if there is any visual change, the patient had injection last visit or it has been 6 months or more since last vision test.

Patients can be eligible for partially sighted or severely sight impaired registration and yet not certified as such. Perhaps clinicians do not bring it up unless patient hears something about the benefit of this registration and enquire whether they are eligible. In order to make registration accessible to everyone eligible the question should be asked of every one eligible. Therefore every patient on eye sight testing scores less than a certain number of letter should be asked whether they are registered or not. In turn the clinician should note the answer to the question and acts accordingly.

Intraocular pressure:

Among many other issues that hinder smooth operation of the clinic is the intraocular pressure (IOP) that nowadays has become a standard test for every visit. Many AMD patients can be seen in the clinic on monthly

basis and except for when they need an injection measuring intraocular pressure can have no significance on their follow up or the standard of care they would be getting. In addition patients start to worry about slight increase or decrease in their pressure despite the fact that those are the normal variation of pressure any clinician would expect. Clinicians as well as nurses will have to explain to patients the hows and whys of their pressure changes. Even nurses can sometimes be distracted by this pressure change. Every time a nurse gets a pressure reading of 24 or 25 and obviously above they would come and ask whether they would be allowed to dilate patients. As a matter of fact most AMD patients would be at an age when they eye pressure would be on the higher side of normal. The author checks IOP only on first visit and prior to injections. If pressure is about 25 before injection it is check again thirty minutes after injection and before patient leaves the clinical area.

Signs: For assessment of eyes with AMD, RVO, DMO or other less common condition, it is essential to examine the eye clinically as well as on Optical Coherence tomography OCT scan and to record findings. Those findings are a large array of signs. Not every sign is always recorded in notes. However it is important for every sign to be recorded if present on first visit in order to make future decisions correct. Therefore it is essential to have all the likely signs in front of the clinician to choose from and mark if they are present. Same applies for OCT signs that can also be outlaid in front of clinician leaving no chance to forgetting a sign if it was their on the scan. Obviously the scan sign recording is less essential than those clinical signs as scans will always be there to look at even after a long time. However there are records of losing the stored scan should the machine has any malfunction, recently occurred with author's machine?

Diagnosis and plan: After recording signs and reaching a decision it is important put that to staff in the clearest form possible. Therefore the outcome would be between observing and in which case a decision on patient return time should be made and treating which should be outlined in a following step. Treatment will be either starting a court of injections or one off injection. In which case it should be decided which medicine to be injection and which eye. Treatment could be by laser treatment which should be detailed as to which eye to be laser and what laser modality to be utilized. As for the subject of these conditions described here laser treatment could be in the form of Pan retinal photocoagulation, Sectorial retinal photocoagulation which should described as to which sector or macular laser either in the form of grid, focal or modified grid.

There are situations when the patient declines treatment or the clinician feels the treatment is no longer necessary. In those cases it should be recorded that treatment to be stopped and to declared how decision to stop treatment came about.

It has to be noted that all these adjustments are only arbitrary and are made by a single ophthalmologist to facilitate the running of the service. They are put out for other interested parties to use an example and modify according to their particular needs and to make the best adjustments that suits the way they run their service.

Attached are two proformas one for new patients (Figure 1) and the other for follow up patients (figure 2).

Conclusion:

Running an intravitreal injection clinic has been a busy part of every ophthalmological unit. These clinics deal with a large load of patients. Speed and easy flow of patients is critical to getting patients to have their treatment according to best schedule that suits their ophthalmological condition and avoids unnecessary rescheduling or extension of their intervals be injections. This has to be done by abolishing every unnecessary step and eliminating any confusion that might arise because of them.

Financial disclosure: Author has not financial interest to declare.

NCIC NHS Foundation trust
Macular Clinic
NEW **Date**

Unit Number
Surname
First name

	Right			**Left**		
Cataract surgery	Y when		N	Y when		N
	Glasses	PH	Unaided	Glasses	PH	Unaided
ETDRS						
Snellen						

Please examine all the above; glasses, PH and Unaided ETDRS and Snellen

IOP mmHg (if above 30 please consult before dilation)

Dilated: G. Trop 1% R L at Signature:

OCT R L

History:

Diagnosis:

Plan

Entry FFA: Not needed Recommended

Observe: Review in weeks months

Inject: Medicine: Eylea Lucentis Avastin X 1 2 3 5

Iluvien Ozurdex rtPA C3F8

Laser: PRP Sectorial RP (ST -IT) Macular (focal Grid MGrid)

Eye: Right Left

Review: Weeks Months

Discharge: Patient request 1 year dry after last injection

No active nAMD

Clinician's signature: Date:

Figure 1

NCIC NHS Foundation trust	**Unit Number**
Macular Clinic	**Surname**
NEW **Date**	**First name**

Clinically:

	Right		**Left**
Lens	NS PSCC PCO IOL	**Lens**	NS PSCC PCO IOL
Macula	dAMD Drusen nAMD: Bleed Scarring Atrophy CSMO	**Macula**	dAMD Drusen nAMD: Bleed Scarring Atrophy CSMO
Foveal	Bleed Scarring Atrophy	**Foveal**	Bleed Scarring Atrophy
	X		X

OCT:

	Right		**Left**
Macula	Dry SRF IRF DMO CMO ERM VMA VMT PED	**Macula**	Dry SRF IRF DMO CMO ERM VMA VMT PED
Foveal	IRF SRF Atrophy Scarring	**Foveal**	IRF SRF Atrophy Scarring
Fluid mimicker	ORT RPE nonadherence Over RPE atrophy Sides of high PED	**Fluid mimicker**	ORT RPE nonadherence Over RPE atrophy Sides of high PED

Remarks:

Clinician's signature: Date:

Figure 1 (cont.)

NCIC NHS Foundation trust
Macular Clinic
Follow up Date

Unit Number
Surname
First name

Last VA date:
Patient aware of any Visual Change No
Please check VA if: last VA 6 month ago Visual change or Injection last visit — Yes

	Right		**Left**	
Cataract surgery	Y when	N	Y when	N
	Glasses	Unaided	Glasses	Unaided
ETDRS				
Snellen				

Neither eye is better than 6/24 or 40 letters? Please ask if Patient is:

Registered as partially sighted or severely sight impaired:

Yes PS SSI Unknown

No

Planned Injection:
Yes IOP= mmHg (if >25 please recheck 30 minutes after injection)
No (no IOP needed)
Dilated: G. Trop 1% R L at Signature:

OCT R L

Plan

Observe: Review in weeks months

Inject: Medicine: Eylea Lucentis Avastin X 1 2 3 5
Iluvien Ozurdex rtPA C3F8

Laser: PRP Sectorial RP (ST IT) Macular(Focal, Grid, Modified Grid)
Eye: Right Left
Review: Weeks Months

Stop Injection: Patient initiated consultant initiated

Discharge: Patient request 1 year dry after last injection
Special instructions: Do not dilate Dilate R L eye only Check SnellenVA

Clinician's signature: Date:

Figure 2

NCIC NHS Foundation trust
Macular Clinic
Follow up Date

Unit Number
Surname
First name

Clinically: (if visual change and/or at least once every six month)

	Right		**Left**
Lens	NS PSCC PCO IOL	**Lens**	NS PSCC PCO IOL
Macula	dAMD nAMD: Bleed Scarring Atrophy	**Macula**	dAMD nAMD: Bleed Scarring Atrophy
Foveal	Bleed Scarring Atrophy	**Foveal**	Bleed Scarring Atrophy
	X		X

OCT:

	Right		**Left**
Macula	Dry SRF IRF ERM VMA VMT PED	**Macula**	Dry SRF IRF ERM VMA VMT PED
Foveal	IRF SRF Atrophy	**Foveal**	IRF SRF Atrophy
Fluid mimicker	ORT RPE nonadherence Over RPE atrophy Sides of high PED	**Fluid mimicker**	ORT RPE nonadherence Over RPE atrophy Sides of high PED

Remarks:

Exit FFA:

Clinician's signature: Date:

Figure 2(cont.)