Mainstreaming & tumour testing

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Remit of familial cancer service :

- To assess family history – classify risk.
- Index case might be unaffected or affected by cancer.
- Manage risk for individuals at increased risk – health advice and/or screening.
- Identify families where genetic investigations might be appropriate – refer to tertiary genetics for mutation searching or predictive testing.
- NICE criteria (>10% chance of mutation)
- Lengthy process.

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Implementing rapid, robust, cost-effective, patient-centred, routine genetic testing in ovarian cancer patients

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Royal Marsden Study (2013 – 2014)

207 women with non-mucinous ovarian cancer

84% were high grade serous carcinoma

Average age at diagnosis = 57

31 of these would have been eligible for testing based on NICE criteria (>10% chance of a mutation).

In total 33/207 women were identified to be carrying a pathogenic BrCa1/2 mutation (16%).

Only 15 of the BrCa+ve women would have been eligible for testing under NICE criteria

NICE National Institute for Health and Care Excellence

Olaparib for maintenance treatment of relapsed, platinum-sensitive, BRCA mutation-positive ovarian, fallopian tube and peritoneal cancer after response to second-line or subsequent platinum-based chemotherapy

Technology appraisal guidance [TA381] Published date: 27 January 2016

Ovarian Cancer BRCA testing protocol "Mainstreaming"

Patient with newly diagnosed non-mucinous ovarian cancer
(Or diagnosed in past and now potentially relapsing/progressive disease)

1. Patient identified at Gynae Cancer MDT – referral form completed - sent to FCS
2. Patient seen by clinician & informed of diagnosis of ovarian cancer - patient told that FCS will be in touch to arrange an appt within 1-2 weeks. Must be documented on icm in letter/cancer care plan.

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Appointment with FCS team (within 1-2 weeks)

1.BRCA gene testing discussed. Implications for patient & family
2.Consent obtained and filed in the notes.
3.Blood (EDTA sample) and request form sent to lab.
4.Detailed family history taken but may need to confirm additional diagnoses in relatives
5.Follow up results appt booked to see FCS in 10-12 weeks (Faster track testing also possible ~4 weeks)

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NO MUTATION | **MUTATION** | **UNCLASSIFIED VARIANT**

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Follow up appt in FCS

1. Results given in person to patient
2. Confirm family history
3. Advice about other cancer risks for patient & family .
4. Results copied to GP & relevant clinicians

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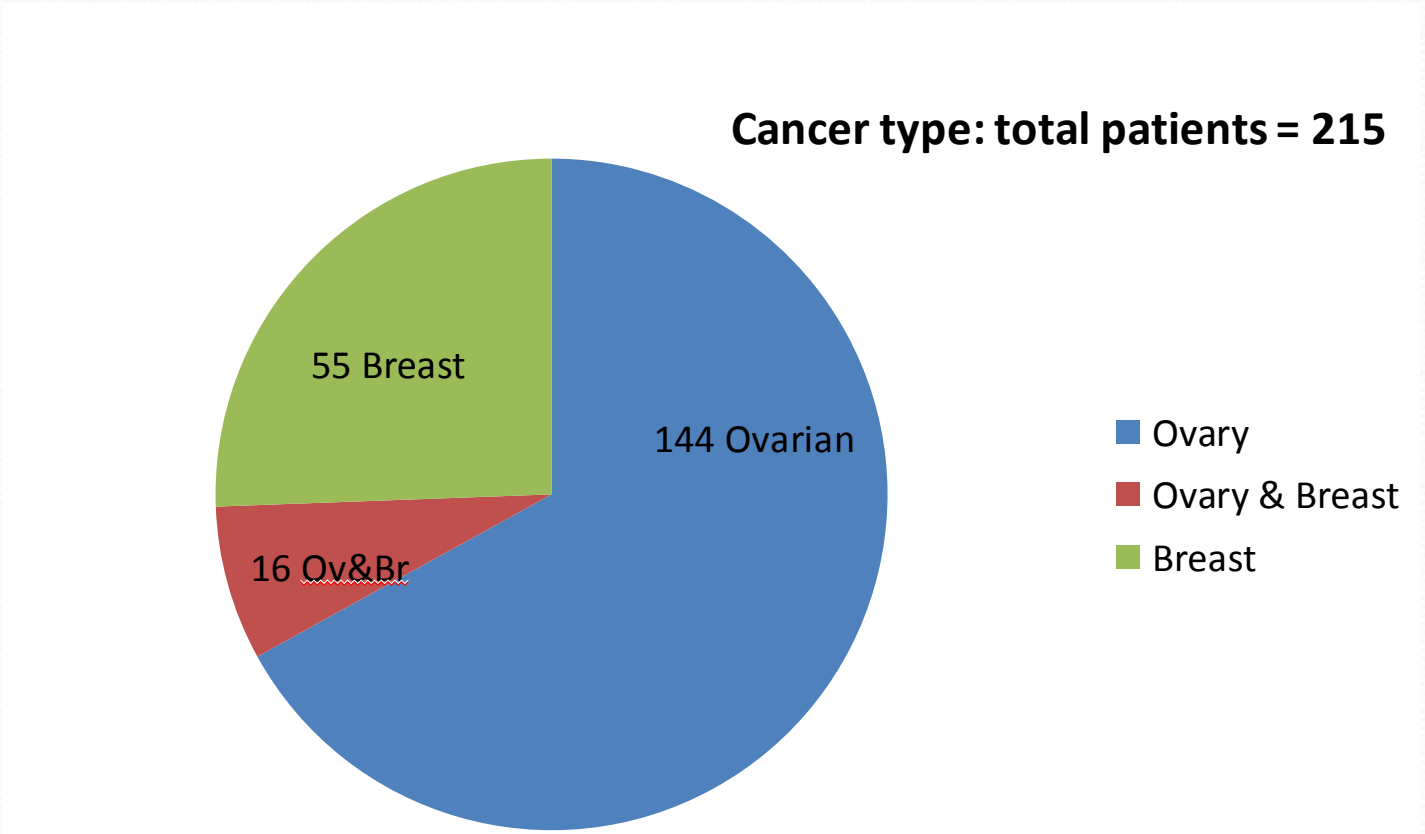
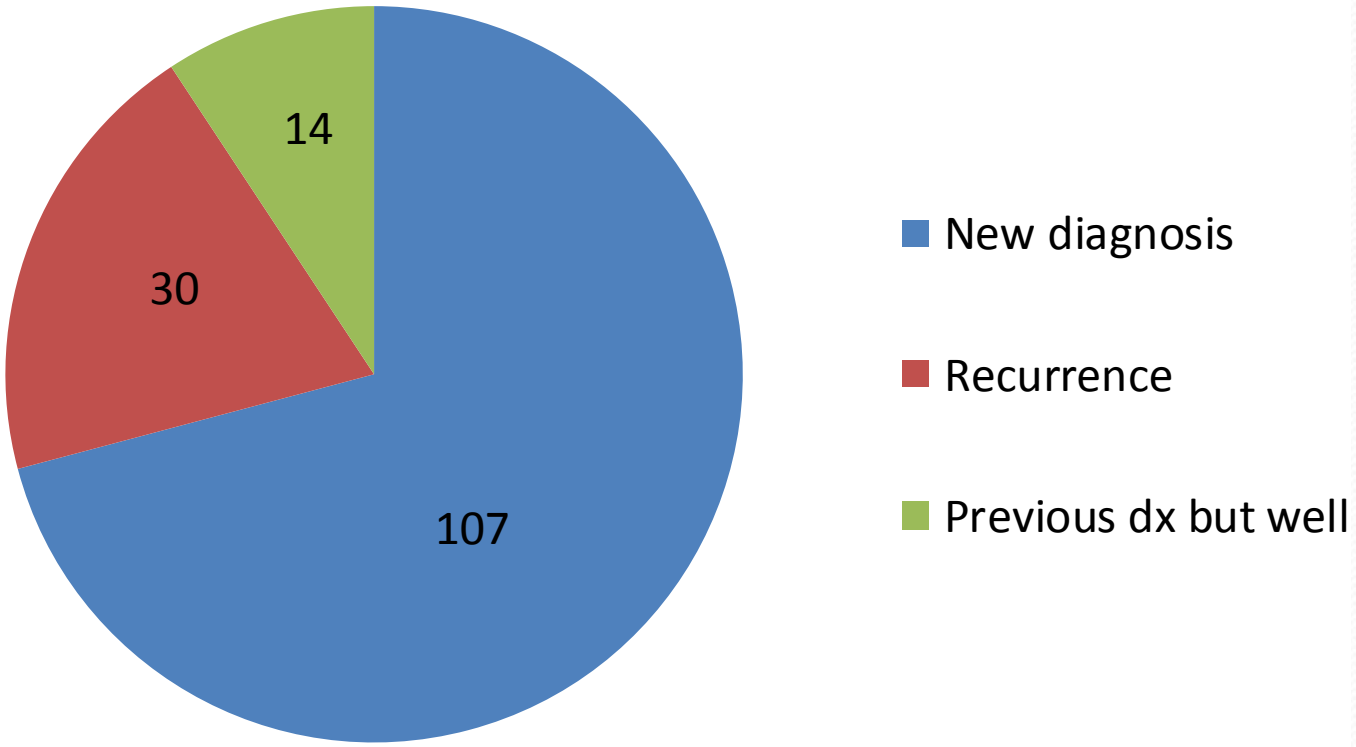
Refer to tertiary genetics service



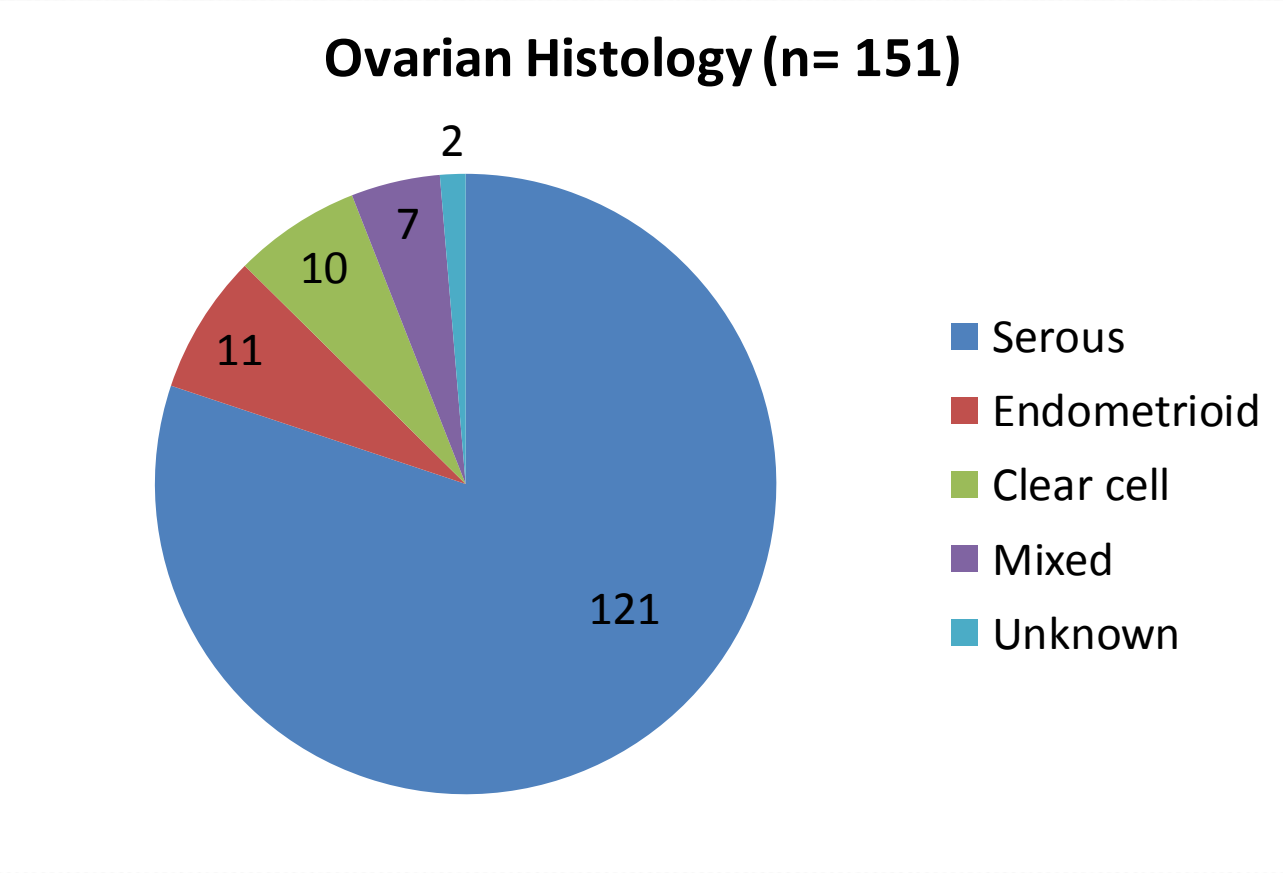
The 16 patients who had both breast & ovarian cancer were eligible on the basis of their ovarian cancer diagnosis.

Patients tested due to their personal dx of ovarian cancer = 160
Of these 160 women – results are known in 151 women

Status of ovarian cancer patients at referral (n= 151)

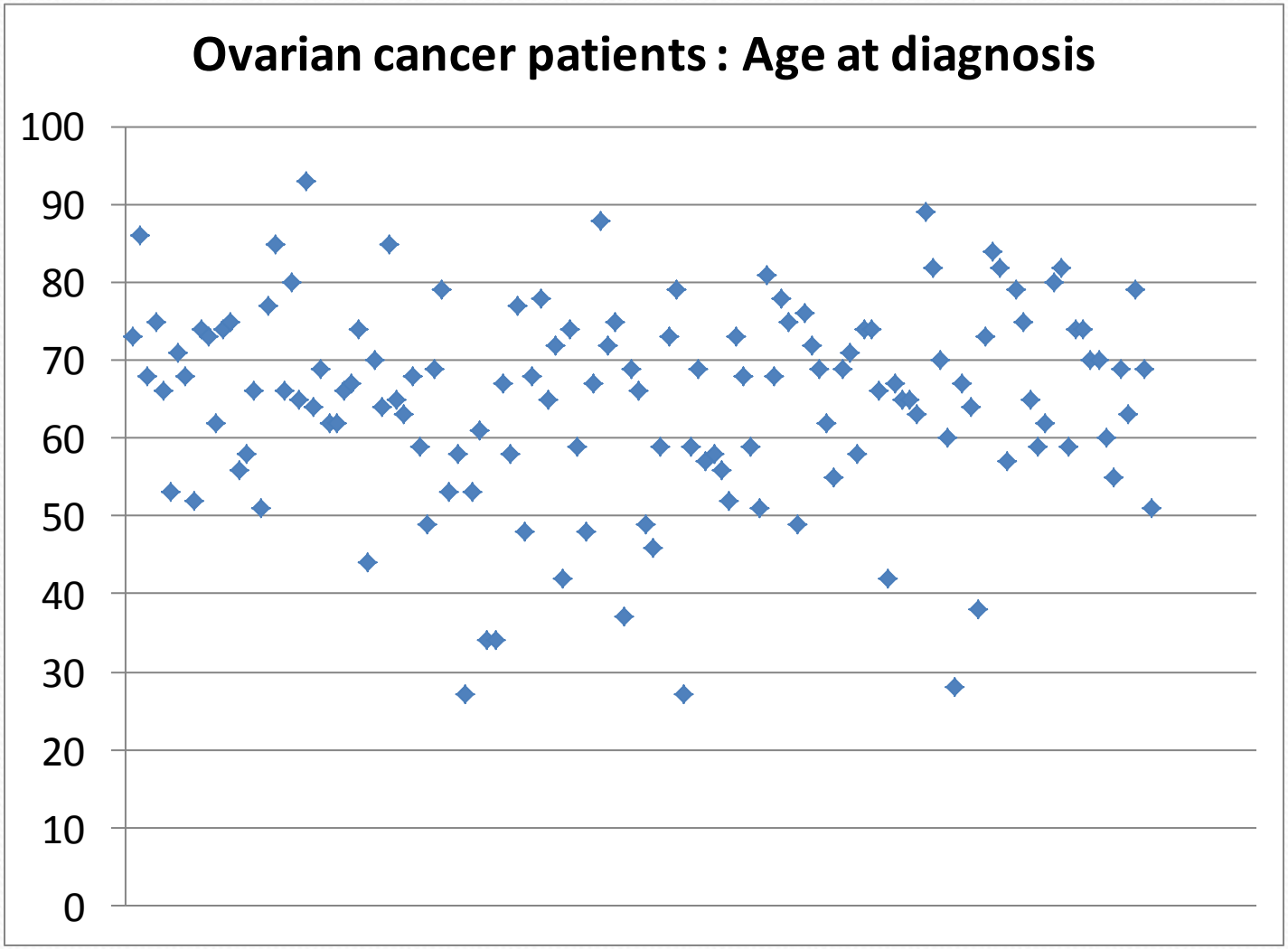


New diagnosis = referral made within 12 months of date of diagnosis of cancer



Unknown category = histology may have been done elsewhere and details not available or diagnosis made on basis of ascitic fluid cells only

AGE
at
diagnosis



Ovarian cancer patients where genetic results are known = 151

Pathogenic mutation identified = 11 women = 7.3%

BrCa1+ve = 7
BrCa2+ve = 3
PALB2 = 1

*** Lower than the 16% gene positive rate in the Marsden study*

Ovarian cancer patients with a known pathogenic mutation (n=11)

BrCa1+ve (n=7)

Histology: serous = 6 & mixed = 1

Aged: 51,52,53,58,63,70,93

3 women had a significant family history of breast/ovarian cancers

BrCa2+ve (n=3)

Histology: serous = 3

Aged: 53,56,62

None had any family history that included breast/ovarian cancers but 1 woman did have a family history suspicious of Lynch syndrome

PALB2+ve (n=1)

Histology: serous ovarian cancer aged 75 + previous history of breast cancer at age 52, also sister had ovarian cancer.

Ovarian cancer patients where genetic results are known = 151

140 women did not appear to have a pathogenic BrCa1/2 mutation.

39 women (26%) had a significant family history that included cases of breast and/or ovarian cancer which would have implications for screening for themselves and relatives.

14 women (9%) had a significant family history that was suggestive of Lynch syndrome – these women have been referred to tertiary genetics for discussion of further investigations and also recommendations for screening for themselves and relatives.

Conclusions

Incidence of gene positive patients may not be as high as suggested in the original Marsden study.

However relying on NICE criteria for genetic testing would mean some patients would be missed.

Important to draw up family tree as some gene negative patients may still have a family history that has implications for themselves & relatives.

……Future developments…

Tissue testing

Gene directory

Thank you..any questions ?