# TCGA BrCa Female Cases Age Dependent Fisher Exact Tests on ER binding

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# FET Tables by ER/HER2 status

All Female Cases, n = 1079, FDR = 0.05

Table 1: FET Table All Female Cases, FDR = 0.05

	Age association		
ER binding	Age associated	Not age associated	Total
ER binding			
N	512	1166	1678
$\operatorname{Column}(\%)$	12.68%	7.82%	
Not ER binding			
${f N}$	3525	13747	17272
Column(%)	87.32%	92.18%	
Total	4037	14913	18950
	21.3%	78.7%	

Table 2: FET Statistics All Female Cases, FDR = 0.05

Value
2.014e-20
$[1.53, 1.914] \\ 1.712$
1 two.sided

#### ER+/HER2- Female Cases, $n=538,\,\mathrm{FDR}=0.05$

Table 3: FET Table ER+/HER2- Female Cases, FDR =  $0.05\,$ 

ER binding	Age association Age associated	Not age associated	Total
ER binding			
N	375	1303	1678
$\operatorname{Column}(\%)$	11.86%	8.25%	
Not ER binding			
N	2788	14484	17272
Column(%)	88.14%	91.75%	
Total	3163	15787	18950
	16.69%	83.31%	

Table 4: FET Statistics ER+/HER2- Female Cases, FDR =  $0.05\,$ 

Statistics	Value
p.value	3.161e-10
conf.int	[1.32, 1.691]
estimate	1.495
null.value	1
alternative	two.sided

#### ER+/HER2+ Female Cases, n=134, FDR=0.05

Table 5: FET Table ER+/HER2+ Female Cases, FDR = 0.05

ER binding	Age association Age associated	Not age associated	Total
ER binding			
N	18	1660	1678
Column(%)	13.04%	8.82%	
Not ER binding			
N	120	17152	17272
$\operatorname{Column}(\%)$	86.96%	91.18%	
Total	138	18812	18950
	0.73%	99.27%	

Table 6: FET Statistics ER+/HER2+ Female Cases, FDR =  $0.05\,$ 

Statistics	Value
p.value	0.09577
conf.int	[0.886, 2.564]
estimate	1.55
null.value	1
alternative	two.sided

#### ER-/HER2+ Female Cases, n=43, FDR = 0.05

Table 7: FET Table ER-/HER2+ Female Cases, FDR = 0.05

ER binding	Age association Age associated	Not age associated	Total
ER binding	1180 00001000	Trot age apportated	10001
N N	0	1678	1678
Not ER binding			
ER binding			
Not ER binding			
N	0	17272	17272
Total			
Not ER binding			
Total	0	18950	18950

Table 8: FET Statistics ER-/HER2+ Female Cases, FDR = 0.05

Statistics	Value
p.value	1
conf.int	[0, Inf]
estimate	0
null.value	1
alternative	two.sided

#### ER-/HER2- Female Cases, $n=155,\,\mathrm{FDR}=0.05$

Table 9: FET Table ER-/HER2- Female Cases, FDR =  $0.05\,$ 

ER binding	Age association Age associated	Not age associated	Total
ER binding N Not ER binding ER binding	0	1678	1678
Not ER binding  N  Total	0	17272	17272
Not ER binding Total	0	18950	18950

Table 10: FET Statistics ER-/HER2- Female Cases, FDR = 0.05

Statistics	Value
p.value	1
conf.int	[0, Inf]
estimate	0
null.value	1
alternative	two.sided

# All Female Cases, $n=1079,\, FDR=0.01$

Table 11: FET Table All Female Cases, FDR = 0.01

ER binding	Age association Age associated	Not age associated	Total
ER binding N	397	1281	1678
Column(%)	12.47%	8.13%	
$egin{aligned} \mathbf{Not} \ \mathbf{ER} \ \mathbf{binding} \ \mathrm{N} \end{aligned}$	2787	14485	17272
Column(%) $     Total$	87.53% $3184$	$91.87\% \ 15766$	18950
iotai	16.8%	83.2%	10990

Table 12: FET Statistics All Female Cases, FDR =  $0.01\,$ 

Statistics	Value
p.value	4.248e-14
${ m conf.int} \ { m estimate}$	$[1.425, 1.817] \\ 1.611$
null.value	1
alternative	two.sided

# ER+/HER2- Female Cases, $n=538,\,\mathrm{FDR}=0.01$

Table 13: FET Table ER+/HER2- Female Cases, FDR = 0.01

ER binding	Age association Age associated	Not age associated	Total
ER binding			
N	252	1426	1678
Column(%)	12.98%	8.38%	
Not ER binding			
N	1689	15583	17272
$\operatorname{Column}(\%)$	87.02%	91.62%	
Total	1941	17009	18950
	10.24%	89.76%	

Table 14: FET Statistics ER+/HER2- Female Cases, FDR =  $0.01\,$ 

Statistics	Value
p.value	1.568e-10
conf.int	[1.407, 1.883]
estimate	1.63
null.value	1
alternative	two.sided

#### ER+/HER2+ Female Cases, n=134, FDR=0.01

Table 15: FET Table ER+/HER2+ Female Cases, FDR = 0.01

ER binding	Age associated	Not age associated	Total
ER binding			
N	2	1676	1678
$\operatorname{Column}(\%)$	18.18%	8.85%	
Not ER binding			
N	9	17263	17272
$\operatorname{Column}(\%)$	81.82%	91.15%	
Total	11	18939	18950
	0.06%	99.94%	

Table 16: FET Statistics ER+/HER2+ Female Cases, FDR =  $0.01\,$ 

Statistics	Value
p.value	0.254
conf.int	[0.2405, 11.07]
estimate	2.289
null.value	1
alternative	two.sided

#### ER-/HER2+ Female Cases, n=43, FDR = 0.01

Table 17: FET Table ER-/HER2+ Female Cases, FDR = 0.01

ER binding	Age association Age associated	Not age associated	Total
ER binding N Not ER binding	0	1678	1678
ER binding Not ER binding N Total	0	17272	17272
$\begin{array}{c} \text{Not ER binding} \\ \text{Total} \end{array}$	0	18950	18950

Table 18: FET Statistics ER-/HER2+ Female Cases, FDR = 0.01

Statistics	Value
p.value	1
conf.int	[0, Inf]
estimate	0
null.value	1
alternative	two.sided

#### ER-/HER2- Female Cases, $n=155,\,\mathrm{FDR}=0.01$

Table 19: FET Table ER-/HER2- Female Cases, FDR = 0.01

ER binding	Age association Age associated	Not age associated	Total
ER binding N Not ER binding	0	1678	1678
ER binding Not ER binding N Total	0	17272	17272
Not ER binding Total	0	18950	18950

Table 20: FET Statistics ER-/HER2- Female Cases, FDR =  $0.01\,$ 

Statistics	Value
p.value	1
conf.int	[0, Inf]
estimate	0
null.value	1
alternative	two.sided

# FET Tables by IntClust subgroups

# $IntClust1\ Female\ Cases,\, n=75,\, FDR=0.05$

Table 21: FET Table IntClust1 Female Cases, FDR = 0.05

ER binding	Age association Age associated	Not age associated	Total
ER binding  N  Column(%)  Not ER binding	0 0.00%	$1678 \\ 8.86\%$	1678
N Column(%)	$11 \\ 100.00\%$	$17261 \\ 91.14\%$	17272
Total	$11\\0.06\%$	$18939 \\ 99.94\%$	18950

Table 22: FET Statistics IntClust1 Female Cases, FDR = 0.05

Statistics	Value
p.value	0.6145
conf.int	[0, 4.103]
estimate	0
null.value	1
alternative	two.sided

#### $IntClust2\ Female\ Cases,\, n=38,\, FDR=0.05$

Table 23: FET Table IntClust2 Female Cases, FDR = 0.05

ER binding	Age association Age associated	Not age associated	Total
ER binding			
N	0	1678	1678
Not ER binding			
ER binding			
Not ER binding			
$\mathbf N$	0	17272	17272
Total			
Not ER binding			
Total	0	18950	18950

Table 24: FET Statistics IntClust2 Female Cases, FDR = 0.05

Statistics	Value
p.value	1
conf.int	[0, Inf]
estimate	0
null.value	1
alternative	two.sided

#### IntClust3 Female Cases, $n=181,\,\mathrm{FDR}=0.05$

Table 25: FET Table IntClust3 Female Cases, FDR = 0.05

ER binding	Age associated	Not age associated	Total
ER binding N	94	1584	1678
$\operatorname{Column}(\%)$	14.35%	8.66%	
Not ER binding			
N	561	16711	17272
$\operatorname{Column}(\%)$	85.65%	91.34%	
Total	655	18295	18950
	3.46%	96.54%	

Table 26: FET Statistics IntClust3 Female Cases, FDR = 0.05

Statistics	Value
p.value	2.406e-06
conf.int	[1.397, 2.217]
estimate	1.768
null.value	1
alternative	two.sided

#### IntClust4 Female Cases, n = 165, FDR = 0.05

Table 27: FET Table IntClust4 Female Cases, FDR = 0.05

ER binding	Age association Age associated	Not age associated	Total
ER binding N Column(%)	13 18.57%	$1665 \\ 8.82\%$	1678
Not ER binding N	57	17215	17272
$\begin{array}{c} \operatorname{Column}(\%) \\ \operatorname{Total} \end{array}$	$81.43\% \ 70 \ 0.37\%$	91.18% $18880$ $99.63%$	18950

Table 28: FET Statistics IntClust4 Female Cases, FDR = 0.05

Statistics	Value
p.value	0.009343
$\operatorname{conf.int}$	[1.182, 4.371]
estimate	2.358
null.value	1
alternative	two.sided

#### IntClust5 Female Cases, n=84, FDR=0.05

Table 29: FET Table IntClust5 Female Cases, FDR = 0.05

ER binding	Age associated	Not age associated	Total
ER binding			
N	0	1678	1678
$\operatorname{Column}(\%)$	0.00%	8.86%	
Not ER binding			
N	2	17270	17272
Column(%)	100.00%	91.14%	
Total	2	18948	18950
	0.01%	99.99%	

Table 30: FET Statistics IntClust5 Female Cases, FDR = 0.05

Statistics	Value
p.value	1
conf.int	[0, 54.85]
estimate	0
null.value	1
alternative	two.sided

#### IntClust6 Female Cases, n=60, FDR=0.05

Table 31: FET Table IntClust6 Female Cases, FDR = 0.05

ER binding	Age association Age associated	Not age associated	Total
ER binding N Not ER binding	0	1678	1678
ER binding Not ER binding N Total	0	17272	17272
Not ER binding Total	0	18950	18950

Table 32: FET Statistics IntClust6 Female Cases, FDR = 0.05

Statistics	Value
p.value	1
conf.int	[0, Inf]
estimate	0
null.value	1
alternative	two.sided

#### IntClust7 Female Cases, n = 100, FDR = 0.05

Table 33: FET Table IntClust7 Female Cases, FDR = 0.05

	Age association		
ER binding	Age associated	Not age associated	Total
ER binding			
N	0	1678	1678
$\operatorname{Column}(\%)$	0.00%	8.86%	
Not ER binding			
N	4	17268	17272
$\operatorname{Column}(\%)$	100.00%	91.14%	
Total	4	18946	18950
	0.02%	99.98%	

Table 34: FET Statistics IntClust7 Female Cases, FDR = 0.05

Statistics	Value
p.value	1
$\operatorname{conf.int}$	[0, 15.6]
estimate	0
null.value	1
alternative	two.sided

#### IntClust8 Female Cases, $n=145,\,\mathrm{FDR}=0.05$

Table 35: FET Table IntClust8 Female Cases, FDR = 0.05

ER binding	Age association Age associated	Not age associated	Total
ER binding			
N N	144	1534	1678
$\operatorname{Column}(\%)$	14.05%	8.56%	
Not ER binding			
$\mathbf N$	881	16391	17272
$\operatorname{Column}(\%)$	85.95%	91.44%	
Total	1025	17925	18950
	5.41%	94.59%	

Table 36: FET Statistics IntClust8 Female Cases, FDR = 0.05

Statistics	Value
p.value	1.776e-08
conf.int	[1.443, 2.102]
estimate	1.746
null.value	1
alternative	two.sided

#### IntClust9 Female Cases, n = 74, FDR = 0.05

Table 37: FET Table IntClust9 Female Cases, FDR =  $0.05\,$ 

ER binding	Age association Age associated	Not age associated	Total
ER binding			
N	0	1678	1678
Not ER binding			
ER binding			
Not ER binding			
$\mathbf N$	0	17272	17272
Total			
Not ER binding			
Total	0	18950	18950

Table 38: FET Statistics IntClust9 Female Cases, FDR = 0.05

Statistics	Value
p.value	1
conf.int	[0, Inf]
estimate	0
null.value	1
alternative	two.sided

# $IntClust10 \ Female \ Cases, \, n=157, \, FDR=0.05$

Table 39: FET Table IntClust10 Female Cases, FDR =  $0.05\,$ 

	Age association		
ER binding	Age associated	Not age associated	Total
ER binding			
N	0	1678	1678
Not ER binding			
ER binding			
Not ER binding			
N	0	17272	17272
Total			
Not ER binding			
Total	0	18950	18950

Table 40: FET Statistics IntClust10 Female Cases, FDR =  $0.05\,$ 

Statistics	Value
p.value	1
conf.int	[0, Inf]
estimate	0
null.value	1
alternative	two.sided

#### IntClust1 Female Cases, n = 75, FDR = 0.01

Table 41: FET Table IntClust1 Female Cases, FDR = 0.01

ER binding	Age association Age associated	Not age associated	Total
ER binding			
N	0	1678	1678
Not ER binding			
ER binding			
Not ER binding			
$\mathbf N$	0	17272	17272
Total			
Not ER binding			
Total	0	18950	18950

Table 42: FET Statistics IntClust1 Female Cases, FDR =  $0.01\,$ 

Statistics	Value
p.value	1
conf.int	[0, Inf]
estimate	0
null.value	1
alternative	two.sided

#### IntClust2 Female Cases, n = 38, FDR = 0.01

Table 43: FET Table IntClust2 Female Cases, FDR = 0.01

ER binding	Age association Age associated	Not age associated	Total
ER binding			
N	0	1678	1678
Not ER binding			
ER binding			
Not ER binding			
$\mathbf N$	0	17272	17272
Total			
Not ER binding			
Total	0	18950	18950

Table 44: FET Statistics IntClust2 Female Cases, FDR = 0.01

Statistics	Value
p.value	1
conf.int	[0, Inf]
estimate	0
null.value	1
alternative	two.sided

#### IntClust3 Female Cases, $n=181,\, FDR=0.01$

Table 45: FET Table IntClust3 Female Cases, FDR = 0.01

ER binding	Age associated	Not age associated	Total
ER binding			
N	24	1654	1678
$\operatorname{Column}(\%)$	13.56%	8.81%	
Not ER binding			
N	153	17119	17272
Column(%)	86.44%	91.19%	
Total	177	18773	18950
	0.93%	99.07%	

Table 46: FET Statistics IntClust3 Female Cases, FDR = 0.01

Statistics	Value
p.value	0.03285
conf.int	[1.006, 2.516]
estimate	1.623
null.value	1
alternative	two.sided

#### IntClust4 Female Cases, n = 165, FDR = 0.01

Table 47: FET Table IntClust4 Female Cases, FDR = 0.01

ER binding	Age association Age associated	Not age associated	Total
ER binding			
N	0	1678	1678
$\operatorname{Column}(\%)$	0.00%	8.86%	
Not ER binding			
N	1	17271	17272
Column(%)	100.00%	91.14%	
Total	1	18949	18950
	0.01%	99.99%	

Table 48: FET Statistics IntClust4 Female Cases, FDR = 0.01

Statistics	Value
p.value	1
conf.int	[0, 398.9]
estimate	0
null.value	1
alternative	two.sided

#### IntClust5 Female Cases, n=84, FDR=0.01

Table 49: FET Table IntClust5 Female Cases, FDR = 0.01

ER binding	Age association Age associated	Not age associated	Total
ER binding			
N	0	1678	1678
Not ER binding			
ER binding			
Not ER binding			
$\mathbf N$	0	17272	17272
Total			
Not ER binding			
Total	0	18950	18950

Table 50: FET Statistics IntClust5 Female Cases, FDR =  $0.01\,$ 

Statistics	Value
p.value	1
conf.int	[0, Inf]
estimate	0
null.value	1
alternative	two.sided

#### IntClust6 Female Cases, n=60, FDR=0.01

Table 51: FET Table IntClust6 Female Cases, FDR = 0.01

ER binding	Age association Age associated	Not age associated	Total
ER binding			
N	0	1678	1678
Not ER binding			
ER binding			
Not ER binding			
$\mathbf N$	0	17272	17272
Total			
Not ER binding			
Total	0	18950	18950

Table 52: FET Statistics IntClust<br/>6 Female Cases, FDR =  $0.01\,$ 

Statistics	Value
p.value	1
conf.int	[0, Inf]
estimate	0
null.value	1
alternative	two.sided

#### IntClust7 Female Cases, n = 100, FDR = 0.01

Table 53: FET Table IntClust7 Female Cases, FDR = 0.01

	Age association		
ER binding	Age associated	Not age associated	Total
ER binding			
N	0	1678	1678
$\operatorname{Column}(\%)$	0.00%	8.86%	
Not ER binding			
N	1	17271	17272
$\operatorname{Column}(\%)$	100.00%	91.14%	
Total	1	18949	18950
	0.01%	99.99%	

Table 54: FET Statistics IntClust7 Female Cases, FDR = 0.01

Statistics	Value
p.value	1
conf.int	[0, 398.9]
estimate	0
null.value	1
alternative	two.sided

#### IntClust8 Female Cases, $n=145,\,\mathrm{FDR}=0.01$

Table 55: FET Table IntClust8 Female Cases, FDR = 0.01

ER binding	Age association Age associated	Not age associated	Total
ER binding			
N	54	1624	1678
$\operatorname{Column}(\%)$	20.93%	8.69%	
Not ER binding			
N	204	17068	17272
$\operatorname{Column}(\%)$	79.07%	91.31%	
Total	258	18692	18950
	1.36%	98.64%	

Table 56: FET Statistics IntClust8 Female Cases, FDR = 0.01

Statistics	Value
p.value	2.709e-09
conf.int	[2.013, 3.789]
estimate	2.782
null.value	1
alternative	two.sided

#### IntClust9 Female Cases, n = 74, FDR = 0.01

Table 57: FET Table IntClust9 Female Cases, FDR = 0.01

ER binding	Age association Age associated	Not age associated	Total
ER binding			
N	0	1678	1678
Not ER binding			
ER binding			
Not ER binding			
$\mathbf N$	0	17272	17272
Total			
Not ER binding			
Total	0	18950	18950

Table 58: FET Statistics IntClust9 Female Cases, FDR =  $0.01\,$ 

Statistics	Value
p.value	1
conf.int	[0, Inf]
estimate	0
null.value	1
alternative	two.sided

# $IntClust10 \ Female \ Cases, \, n=157, \, FDR=0.01$

Table 59: FET Table IntClust10 Female Cases, FDR =  $0.01\,$ 

ER binding	Age association Age associated	Not age associated	Total
ER binding			
N	0	1678	1678
Not ER binding			
ER binding			
Not ER binding			
$\mathbf N$	0	17272	17272
Total			
Not ER binding			
Total	0	18950	18950

Table 60: FET Statistics IntClust10 Female Cases, FDR =  $0.01\,$ 

Statistics	Value
p.value	1
conf.int	[0, Inf]
estimate	0
null.value	1
alternative	two.sided