



HCC MDT

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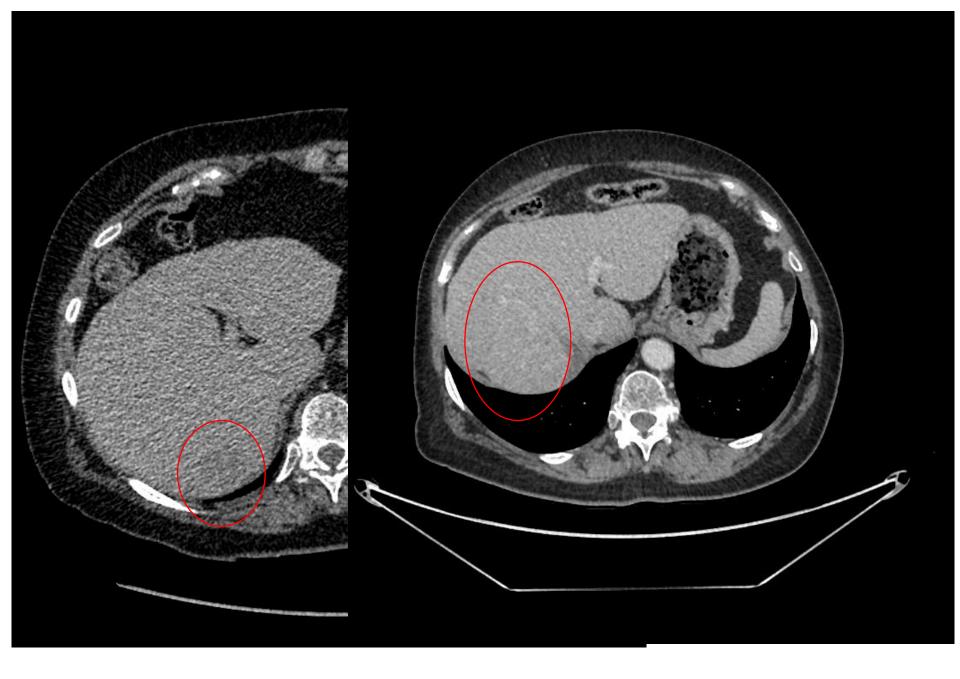
The Eagle,
Prometheus, &
Hepatic Regeneration

(Jacob Jordaens, circa 1640)

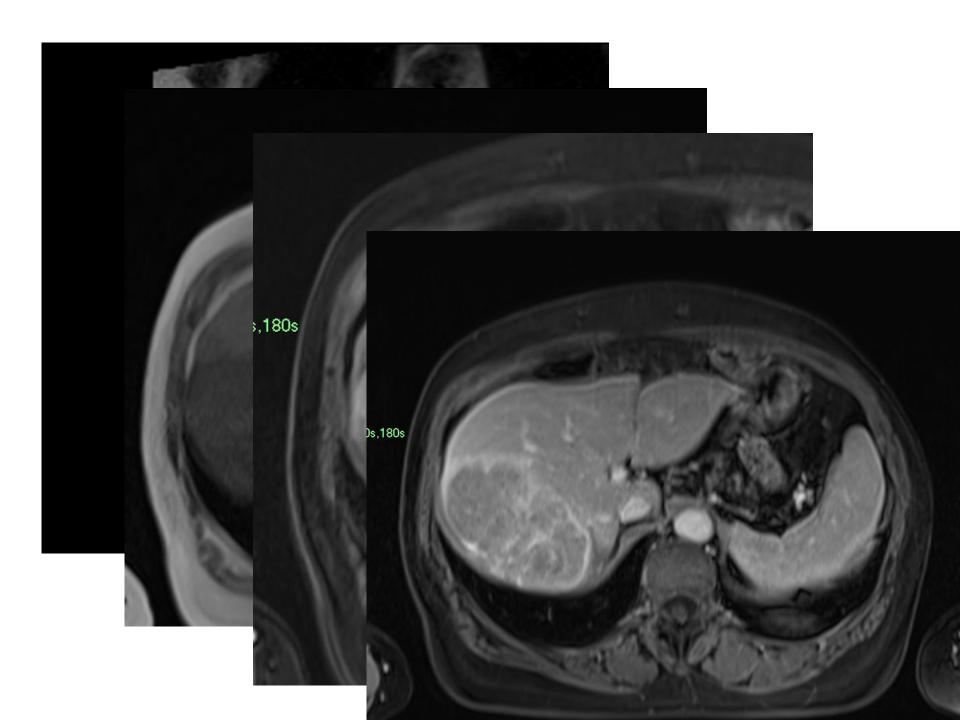


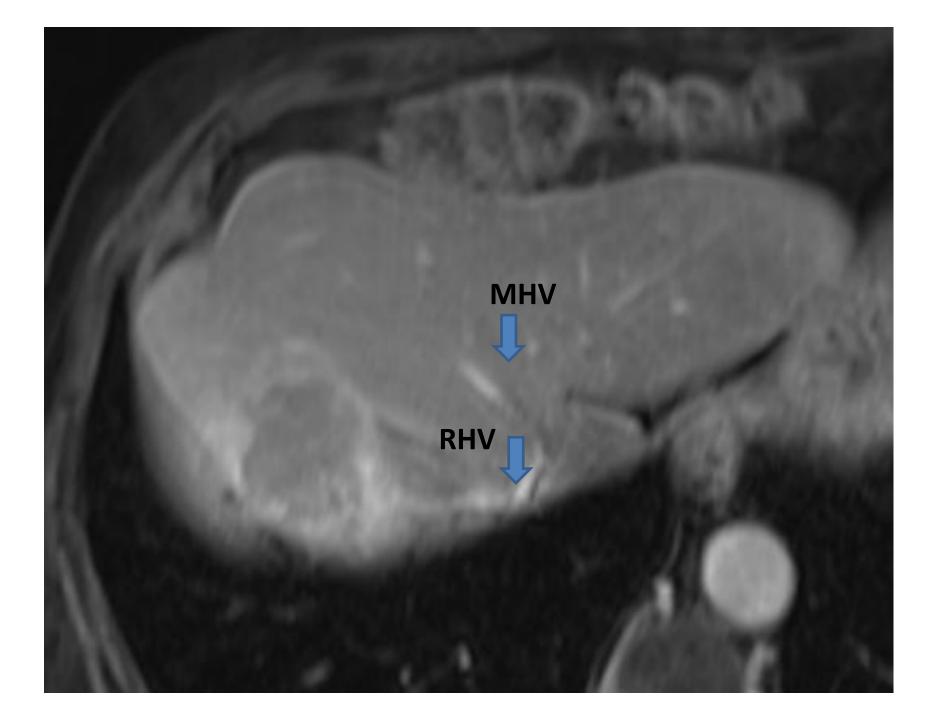
Case 1

- 73 Female
- PMH: OA, CKD III, HT, THR
- USS: for haematuria
- Incidental liver lesion
- No past history of liver disease
- CT Fort William



2017 2018





MDT:

- Macrovascular invasion at RHV.
- Looks like HCC in non cirrhotic liver. Amenable to biopsy if required.
- Fibroscan 5.1 kPa (Low Risk of Fibrosis)
- Outwith transplant criteria
- AFP 88
- 2 peritoneal nodules
- Seen in clinic: fit candidate

Diagnostic Lap

- Morphologically healthy liver
- 2 peritoneal nodules: biopsies
- Tumour not visualised

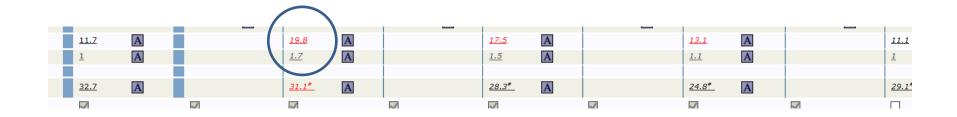
- Peritoneal biopsies benign
- AFP 114
- Consider proceeding to resection

HPB clinic

- Counselled for Surgery
- Pre-assessment: passed fit ASA2
- Standard Right hemihepatectomy
- Well encapulated tumour R0 morphologically
- Trivial post-op delirium, self limiting

Test Items	Reference Range	Units	CB316738P 08/11/2019 11:57	20191108	22/02/2019 09:10 圓		21/02/2019 09:08		20/02/2019 09:00		19/02/2019 09:11		19/02/2019 00:52		17/02/2019 08:03		16/02/2019 18:14 置
Sodium	133 - 146	mmol/L	<u>136</u>	A	<u>126</u>	A	<u>125</u>	A	<u>127</u>	A	<u>127</u>	A	<u>126</u>	A	<u>123</u>	A	<u>122</u>
Potassium	3.5 - 5.3	mmol/L	<u>4.7</u>	A	<u>4</u>	A	4.4	A	<u>4.6</u>	\mathbf{A}	<u>5.2</u>	\mathbf{A}	<u>5.1</u>	A	<u>4.7</u>	A	<u>4.6</u>
Chloride	95 - 108	mmol/L	<u>104</u>	A	<u>95</u>	A	<u>94</u>	A	<u>95</u>	A	<u>95</u>	A	<u>94</u>	A	<u>92</u>	A	<u>93</u>
Urea	2.5 - 7.8	mmol/L	<u>7.2</u>	A	<u>2.4</u>	A	<u>3.3</u>	A	<u>3.4</u>	\mathbf{A}	<u>4.8</u>	A	<u>5.5</u>	A	<u>4.3</u>	A	<u>4.3</u>
Creatinine	45 - 84	umol/L	<u>80</u>	A	<u>64</u>	A	<u>66</u>	A	<u>69</u>	A	<u>78</u>	A	<u>84</u>	A	<u>76</u>	A	<u>78</u>
Acute Kidney Injury					<u>0 *</u>	A	<u>0 *</u>	A	<u>0 *</u>	\mathbf{A}	<u>0 *</u>	A	<u>0 *</u>	A	<u>0 *</u>	A	<u>0 *</u>
eGFR (MDRD aligned)	60 - 140	ml/min/1.73m2	<u>>60</u>	A	<u>>60</u>	A	<u>>60</u>	A	<u>>60</u>	A	<u>>60</u>	A	<u>58</u>	Α	<u>>60</u>	Α	<u>>60</u>
Calcium															2.20	A	
Calcium (adjusted)	2.20 - 2.60														<u>2.46</u>	A	
Phosphate	0.80 - 1.50														<u>0.98</u>	A	<u>0.79</u>
Total Protein	60 - 80														<u>52</u>	A	
Albumin	35 - 50	g/L			<u>24</u>	A	<u>24</u>	A	<u>23</u>	\mathbf{A}	<u>26</u>	\mathbf{A}	<u>23</u>	A	<u>27</u>	A	<u>25</u>
Tot Bilirubin	0 - 20	umol/L			<u>31</u>	A	<u>33</u>	A	<u>43</u>	A	<u>63</u>	A	<u>63</u>	A	<u>92</u>	A	<u>76</u>
Ala Amino Trans	9 - 55	U/L			<u>206</u>	A	<u>254</u>	\mathbf{A}	<u>335</u>	\mathbf{A}	<u>484</u>	A	<u>497</u>	A	<u>1020</u>	A	<u>1135</u>
Alk Phosphatase	30 - 130	U/L			<u>163</u>	A	<u>168</u>	A	<u>159</u>	A	<u>149</u>	A	124	A	<u>149</u>	A	<u>124</u>
Gamma Glut Trans	6 - 35	U/L			<u>208</u>	A	<u>214</u>	A	<u>198</u>	A	<u>191</u>	A	<u>158</u>	A	<u>206</u>	A	<u>192</u>
C-Reactive Protein	0 - 4	mg/L			<u> 22</u>	A			<u>98</u>	A	<u>139</u>	A	<u>138</u>	A	<u>183</u>	A	<u>125</u>
Magnesium	0.70 - 1	mmol/L															<u>0.61</u>
Haemolysis			1	A	2	A	Ξ	A	Ξ	A	Ξ	A	Ξ.	A	1	A	Ξ
Lipaemia			Ξ	A	=	A	=	\mathbf{A}	Ξ	\mathbf{A}	=	A	Ξ	A	Ξ	A	Ξ
Icteric			1	A	<u>+</u>	A	<u>+</u>	\mathbf{A}	<u>+</u>	\mathbf{A}	<u>+</u>	A	<u>+</u>	A	<u>+</u>	A	<u>+</u>
Sign Off			/		✓		✓		✓		✓		✓		✓		✓
			∢ ▶														

Test Items	Reference Range	Units	CB316738P20191108 08/11/2019 11:57		CB/05083E20190924 24/09/2019 14:01		CB124886D20190731 30/07/2019 16:50		CB029578K20190611 11/06/2019 12:21		26/03/2019 16:54		CB202471R20190228 28/02/2019 13:26		CB3Z393TJZUT9UZZ3 25/02/2019 10:45		CB523005MZU190ZZ4 24/02/2019 09:34 圓		CB523392120190223 23/02/2019 09:44	
Sodium	133 - 146	mmol/L	<u>136</u>	Α	135	A	<u>135</u>	A	<u>135</u>	\mathbf{A}	<u>137</u>	A	<u>131</u>	A	<u>130</u>	A	<u>131</u>	\mathbf{A}	<u>129</u>	A
Potassium	3.5 - 5.3	mmol/L	4.7	A	<u>5</u>	\mathbf{A}	<u>4.5</u>	A	<u>5.1</u>	\mathbf{A}	4	A	<u>3.5</u>	\mathbf{A}	3.6	A	<u>3.5</u>	\mathbf{A}	<u>3.8</u>	$ \mathbf{A} $
Chloride	95 - 108	mmol/L	104	Α	102	A	<u>104</u>	A	<u>105</u>	A	<u>105</u>	A	<u>101</u>	\mathbf{A}	<u>99</u>	A	<u>98</u>	\mathbf{A}	<u>97</u>	\mathbf{A}
Jrea	2.5 - 7.8	mmol/L	<u>7.2</u>	A	<u>6</u>	A	6.6	\mathbf{A}	<u>5.1</u>	\mathbf{A}	4.4	A	<1.8	\mathbf{A}	<1.8	A	<1.8	\mathbf{A}	<u>1.9</u>	\mathbf{A}
Creatinine	45 - 84	umol/L	<u>80</u>	A	80	\mathbf{A}	<u>82</u>	A	<u>75</u>	\mathbf{A}	<u>69</u>	A	<u>56</u>	A	<u>59</u>	A	<u>59</u>	\mathbf{A}	<u>64</u>	\mathbf{A}
Acute Kidney Injury					0 *	A					<u>0 *</u>	A			<u>0 *</u>	A	<u>0 *</u>	\mathbf{A}	<u>0 *</u>	\mathbf{A}
eGFR (MDRD aligned)	60 - 140	ml/min/1.73m2	<u>>60</u>	A	<u>>60</u>	A	<u>59</u>	A	<u>>60</u>	A	<u>>60</u>	A	<u>>60</u>	A	<u>>60</u>	A	<u>>60</u>	A	<u>>60</u>	A
Calcium															2.07	\mathbf{A}				
Calcium (adjusted)	2.20 - 2.60														<u>2.41</u>	A				
Phosphate	0.80 - 1.50														0.93	\mathbf{A}				
Total Protein	60 - 80														<u>48</u>	A				
Albumin	35 - 50	g/L			<u>39</u>	\mathbf{A}	<u>38</u>	\mathbf{A}			<u>36</u>	A	<u>28</u>	\mathbf{A}	<u>23</u>	\mathbf{A}	<u>26</u>	\mathbf{A}	<u>24</u>	\mathbf{A}
Tot Bilirubin	0 - 20	umol/L			<u>10</u>	A	<u>10</u>	A			<u>10</u>	A	<u>21</u>	A	<u>20</u>	A	<u>25</u>	A	<u>28</u>	A
Ala Amino Trans	9 - 55	U/L			<u>17</u>	\mathbf{A}	<u>17</u>	\mathbf{A}			<u>15</u>	A	<u>91</u>	\mathbf{A}	<u>146</u>	A	<u>187</u>	\mathbf{A}	<u>179</u>	\mathbf{A}
Alk Phosphatase	30 - 130	U/L			<u>139</u>	A	<u>140</u>	A			<u>146</u>	A	<u>139</u>	A	<u>134</u>	A	<u>160</u>	\mathbf{A}	<u>157</u>	A
Gamma Glut Trans	6 - 35	U/L			<u>143</u>	\mathbf{A}	<u>107</u>	A			<u>306</u>	\mathbf{A}	<u>179</u>	A	<u>178</u>	A	<u>216</u>	\mathbf{A}	202	\mathbf{A}
C-Reactive Protein	0 - 4	mg/L													<u>40</u>	A	<u>52</u>	A	<u>71</u>	\mathbf{A}
Haemolysis			Ξ	A	=	\mathbf{A}	Ξ	\mathbf{A}	=	\mathbf{A}	Ξ	\mathbf{A}	=	A	=	\mathbf{A}	Ξ	\mathbf{A}	Ξ	\mathbf{A}
Lipaemia			± .	Α	1	A	Ξ	A	=	\mathbf{A}	Ξ	A	2	A	2	A	=	\mathbf{A}	Ξ	A
Ceteric			Ξ	A	Ξ.	\mathbf{A}	=	\mathbf{A}	=	\mathbf{A}	=	\mathbf{A}	Ξ	A	=	\mathbf{A}	±	\mathbf{A}	±	\mathbf{A}
Sign Off			✓		\checkmark		✓		\checkmark		✓		\checkmark		✓		✓		✓	

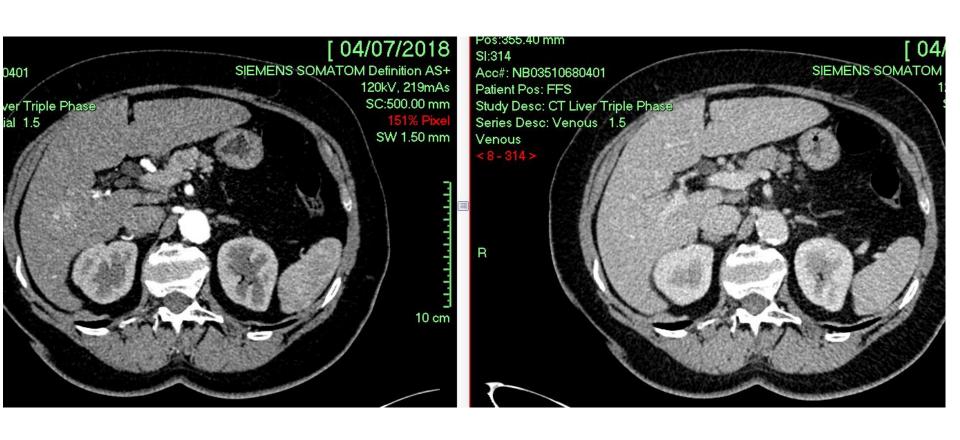


- Discharged 11 days post op
- Histology: Well differentiated HCC. pT1b R0
- Surveillance: CTCAP
- 11 Months: Alive and disease free

Case-2 MDT referral

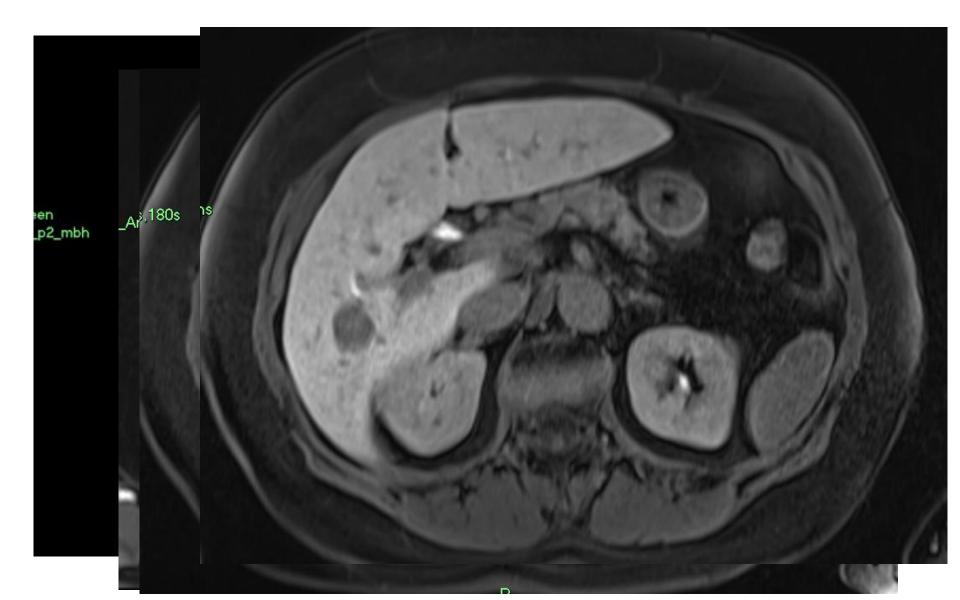
- 77 year old lady with deranged LFTs.
- PMH: HT, BMI 33
- Light alcohol consumer
- No previous liver disease
- Lesion in liver on USS.
- Review CT 04/07/18
- Childs A
- AFP 10

Review CT 04/07/18



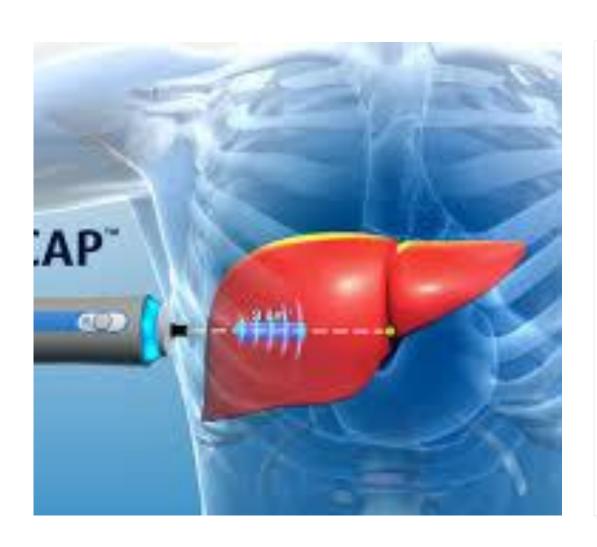
MDT discussion

- Childs A.
- No vascular invasion.
- Plan: staging MRI and Fibroscan



- Out-with transplant criteria.
- fibroscan results.
- Consider resection and RFA.

FIBROSCAN



- Score 12.6 kPa
- Indicative of degree of fibrosis.

- Refer to Edinburgh HPB MDT in view of RFA based on the Fibroscan result.
- Outcome: too-ill defined for RFA due to proximity to posterior branch of the portal vein. Indicates poor prognosis
- Consider TACE

TACE 1

• 7/12 first TACE-1 nausea for 2 weeks

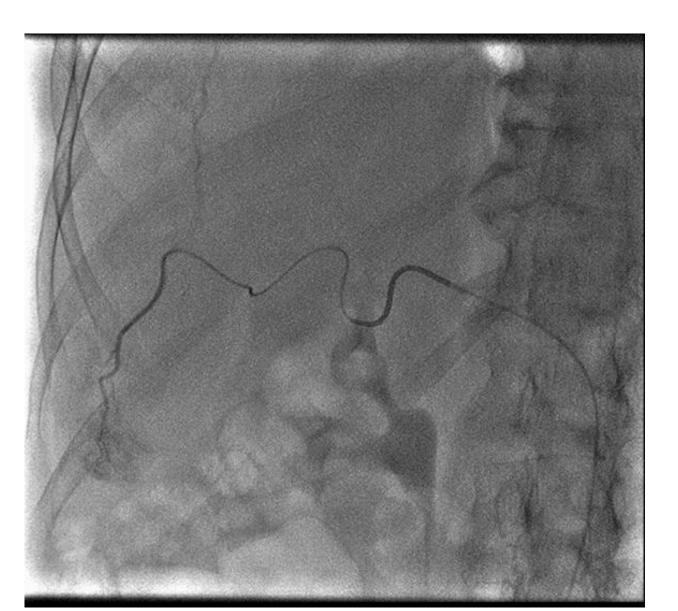
RIGHT POST CHEMO EMBOLISATION RIGHT

Post Tace 1



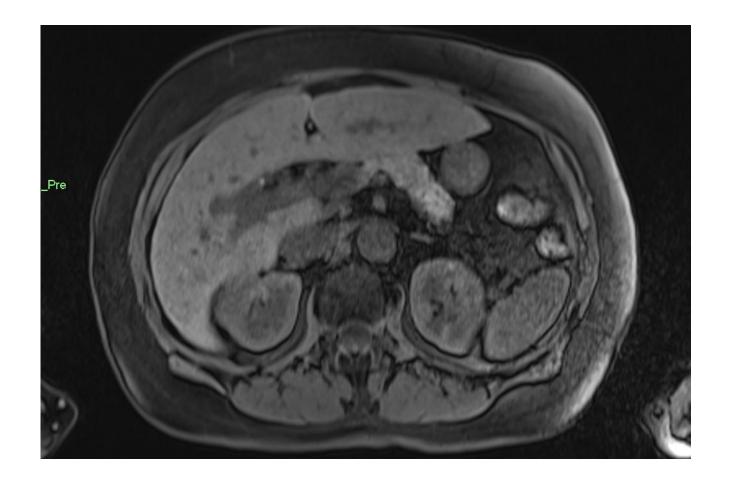
18/01/19 CT Good partial response to TACE.
 BAK to review in clinic and consider further TACE.

TACE 2

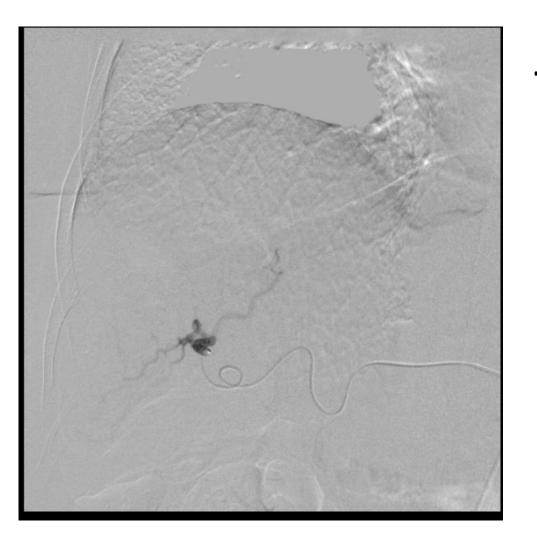


TACE 2

• 07/03 TACE-2 well tolerated



MRI 18/04 Good response to TACE although possible marginal residual tumour. consider repeat TACE.



TACE-3

• 18/07 No embolisation

- MRI 30/10 HCC in segment 5/6
- Repeat MRI in 6 months time as likely only necrotic area left.