

Circulating tumor cells as liquid biopsy for castration resistant prostate cancer (CRPC) patients treated with cabazitaxel

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Preliminary data

Rationale

- Cabazitaxel improves OS in CRPC patients
- CTCs profiling before and during cabazitaxel could help to establish novel predictive markers and monitoring cancer evolution

Recruitment

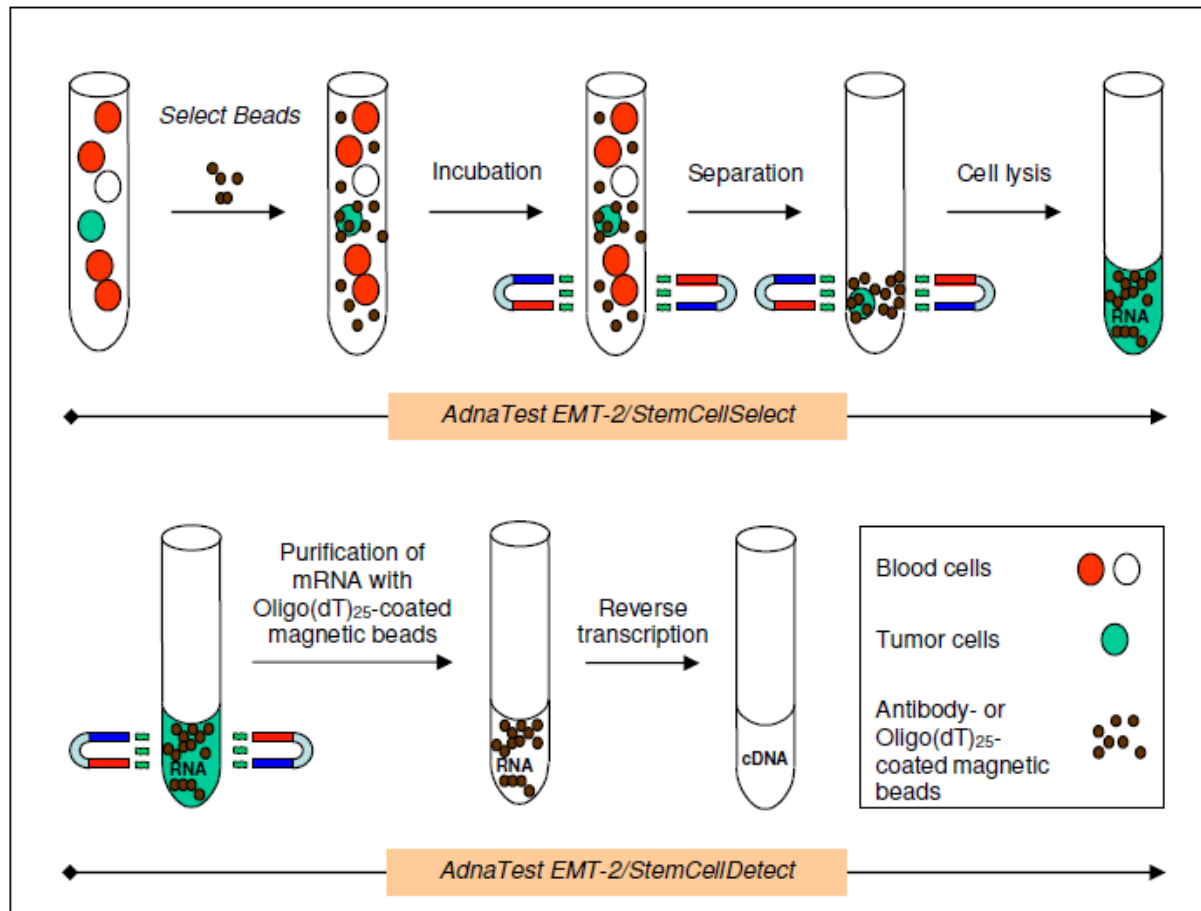
14 CRPC patients at baseline of cabazitaxel treatment
evaluated for presence of CTCs



Methods

AdnaGen

Detection of CTCs



Methods

Detection of CTCs

Preamplification and real-time assays

Targets	
AHR	aryl hydrocarbon receptor
AKR1C3	aldo-keto reductase family 1, member C3
AKT2	v-akt murine thymoma viral oncogene homolog 2
ALDH1	Aldehyde Dehydrogenase 1 Family
AR	Androgen receptor
EPCAM	Epithelial Cell Adhesion Molecule
FOLH1	Folate Hydrolase (Prostate-Specific Membrane Antigen) 1
MDK	Midkine (Neurite Growth-Promoting Factor 2)
PARP	Poly (ADP-Ribose) Polymerase 1
MRP1	ATP-Binding Cassette
PI3KCA	Phosphatidylinositol-4,5-Bisphosphate 3-Kinase, Catalytic Subunit Alpha
POU5F1	POU Class 5 Homeobox 1
PSCA	Prostate Stem Cell Antigen
TUBB3	Tubulin, Beta 3 Class III
HPRT1	Hypoxanthine Phosphoribosyltransferase 1

Preliminary data

CTCs and PSA

Case series (14 pts)	CTC positive at baseline	
	Yes	No
	No (%)	No (%)
Patients	8 (57)	6 (43)
Baseline PSA, median	171 ng/mL [25-944.4]	40 ng/mL [2.7-146.2]

Preliminary data

Patients	Expression markers													
	AHR	AKR1C3	AKT2	AR	EPCAM	FOLH1	MDK	PARP	MRP1	PI3KCA	POU5F1	PSCA	TUBB3	HPRT1
Non responder patients														
01/A	+	+	+		+	+	+	+	+	+	+	+	+	+
05/A		+	+		+	+	+							
08/A							+				+	+		
10/A			+		+		+	+						
13/A				+	+			+		+				
Responder patients														
04/A			+					+			+			
07/A								+		+	+			
12/A				+	+	+	+					+		+

Conclusions

- We detected CTCs in about 60% of CRPC patients prior to cabazitaxel treatment with a positive correlation between PSA and CTCs presence.
- We have also performed a feasibility study on DNA from adnatest selection of CTCs and we obtained a good DNA quality to perform subsequent analyses with conventional PCR or digital PCR approaches.
- We are now collecting follow up data and CTCs samples during treatment and at disease progression, to complete and enlarge the case series.