

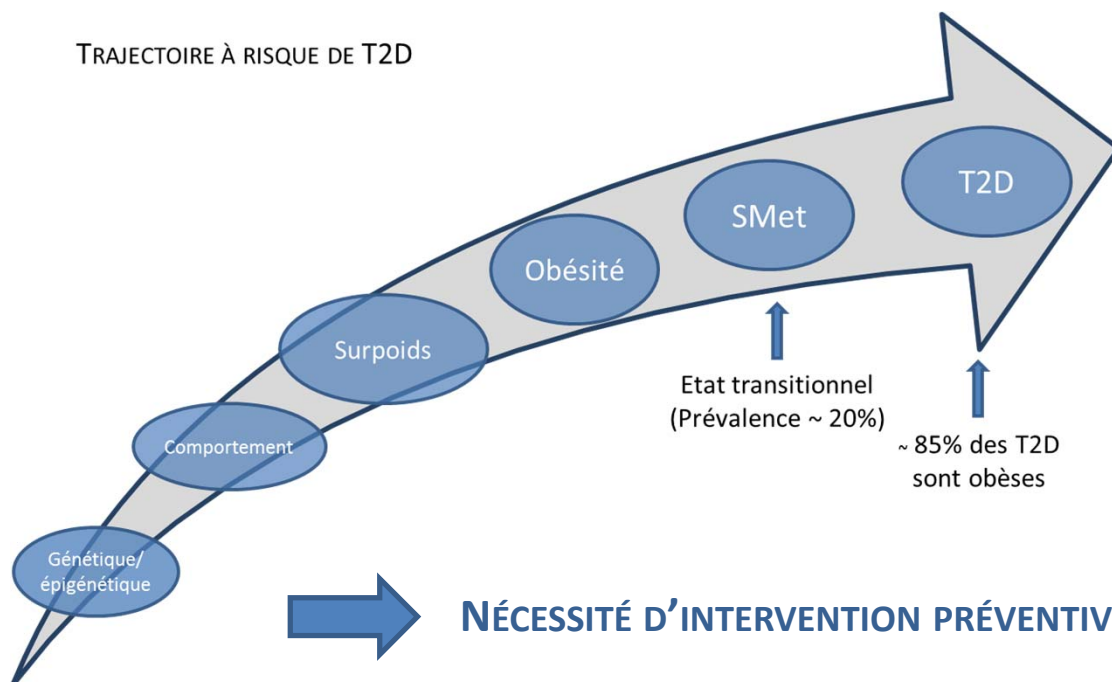
Projet de recherche clinique SNAPSHOT (2014-2016)

SYNDROME MÉTABOLIQUE (SMET)

Précède
Prédit

DIABÈTE DE TYPE 2 (T2D)

TRAJECTOIRE À RISQUE DE T2D



Conséquences

- Qualité de vie
- Coût sur les systèmes de santé
- Morbidité

➔ **NÉCESSITÉ D'INTERVENTION PRÉVENTIVE ET PRÉCOCE**

OBJECTIF : mieux caractériser et comprendre **LE SYNDROME MÉTABOLIQUE** et identifier les **MARQUEURS** reflétant les stades initiaux du syndrome, dont ceux spécifiques de l'empreinte de l'environnement foetal.

Projet de recherche clinique SNAPSHOT (2014-2016)

Cohorte Haguenau



Registre de la maternité d'Haguenau
1971-1985 : ~ 27 000 naissances

SÉLECTION D'UNE POPULATION À RISQUE

Bébé né avec un petit poids
= SGA



vs

Bébé né avec un poids normal
= AGA



Evolution vers le Syndrome Métabolique

20 ans
inclusion



30 ans
suivi

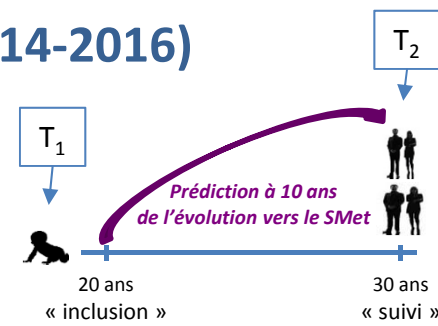


Au total : 168 individus ont été inclus dans l'étude, soit 76 AGA et 92 SGA

Projet de recherche clinique SNAPSHOT (2014-2016)

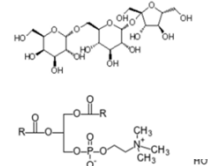
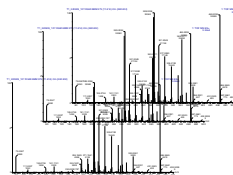
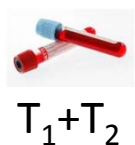


ENVOI DES ÉCHANTILLONS DE SANG POUR ANALYSES



Métabolomique : analyse des petites molécules

1



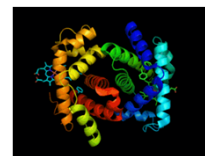
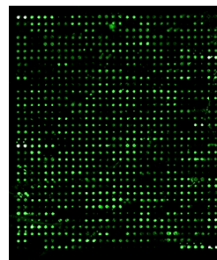
Echantillons

Variables (RT-masse)	E1	E2	E3	E4	E5	E6	E7
1	1.23	1.45	1.67	1.89	2.11	2.33	2.55
2	2.34	2.56	2.78	3.00	3.22	3.44	3.66
3	3.45	3.67	3.89	4.11	4.33	4.55	4.77
4	4.56	4.78	5.00	5.22	5.44	5.66	5.88
5	5.67	5.89	6.11	6.33	6.55	6.77	6.99
6	6.78	7.00	7.22	7.44	7.66	7.88	8.10
7	7.89	8.11	8.33	8.55	8.77	8.99	9.21
8	8.90	9.12	9.34	9.56	9.78	10.00	10.22
9	9.01	9.23	9.45	9.67	9.89	10.11	10.33
10	10.12	10.34	10.56	10.78	11.00	11.22	11.44
11	11.23	11.45	11.67	11.89	12.11	12.33	12.55
12	12.34	12.56	12.78	13.00	13.22	13.44	13.66
13	13.45	13.67	13.89	14.11	14.33	14.55	14.77
14	14.56	14.78	15.00	15.22	15.44	15.66	15.88
15	15.67	15.89	16.11	16.33	16.55	16.77	16.99
16	16.78	17.00	17.22	17.44	17.66	17.88	18.10
17	17.89	18.11	18.33	18.55	18.77	18.99	19.21
18	18.90	19.12	19.34	19.56	19.78	20.00	20.22
19	19.01	19.23	19.45	19.67	19.89	20.11	20.33
20	20.12	20.34	20.56	20.78	21.00	21.22	21.44
21	21.23	21.45	21.67	21.89	22.11	22.33	22.55
22	22.34	22.56	22.78	23.00	23.22	23.44	23.66
23	23.45	23.67	23.89	24.11	24.33	24.55	24.77
24	24.56	24.78	25.00	25.22	25.44	25.66	25.88
25	25.67	25.89	26.11	26.33	26.55	26.77	26.99
26	26.78	27.00	27.22	27.44	27.66	27.88	28.10
27	27.89	28.11	28.33	28.55	28.77	28.99	29.21
28	28.90	29.12	29.34	29.56	29.78	30.00	30.22
29	29.01	29.23	29.45	29.67	29.89	30.11	30.33
30	30.12	30.34	30.56	30.78	31.00	31.22	31.44
31	31.23	31.45	31.67	31.89	32.11	32.33	32.55
32	32.34	32.56	32.78	33.00	33.22	33.44	33.66
33	33.45	33.67	33.89	34.11	34.33	34.55	34.77
34	34.56	34.78	35.00	35.22	35.44	35.66	35.88
35	35.67	35.89	36.11	36.33	36.55	36.77	36.99
36	36.78	37.00	37.22	37.44	37.66	37.88	38.10
37	37.89	38.11	38.33	38.55	38.77	38.99	39.21
38	38.90	39.12	39.34	39.56	39.78	40.00	40.22
39	39.01	39.23	39.45	39.67	39.89	40.11	40.33
40	40.12	40.34	40.56	40.78	41.00	41.22	41.44
41	41.23	41.45	41.67	41.89	42.11	42.33	42.55
42	42.34	42.56	42.78	43.00	43.22	43.44	43.66
43	43.45	43.67	43.89	44.11	44.33	44.55	44.77
44	44.56	44.78	45.00	45.22	45.44	45.66	45.88
45	45.67	45.89	46.11	46.33	46.55	46.77	46.99
46	46.78	47.00	47.22	47.44	47.66	47.88	48.10
47	47.89	48.11	48.33	48.55	48.77	48.99	49.21
48	48.90	49.12	49.34	49.56	49.78	50.00	50.22
49	49.01	49.23	49.45	49.67	49.89	50.11	50.33
50	50.12	50.34	50.56	50.78	51.00	51.22	51.44
51	51.23	51.45	51.67	51.89	52.11	52.33	52.55
52	52.34	52.56	52.78	53.00	53.22	53.44	53.66
53	53.45	53.67	53.89	54.11	54.33	54.55	54.77
54	54.56	54.78	55.00	55.22	55.44	55.66	55.88
55	55.67	55.89	56.11	56.33	56.55	56.77	56.99
56	56.78	57.00	57.22	57.44	57.66	57.88	58.10
57	57.89	58.11	58.33	58.55	58.77	58.99	59.21
58	58.90	59.12	59.34	59.56	59.78	60.00	60.22
59	59.01	59.23	59.45	59.67	59.89	60.11	60.33
60	60.12	60.34	60.56	60.78	61.00	61.22	61.44
61	61.23	61.45	61.67	61.89	62.11	62.33	62.55
62	62.34	62.56	62.78	63.00	63.22	63.44	63.66
63	63.45	63.67	63.89	64.11	64.33	64.55	64.77
64	64.56	64.78	65.00	65.22	65.44	65.66	65.88
65	65.67	65.89	66.11	66.33	66.55	66.77	66.99
66	66.78	67.00	67.22	67.44	67.66	67.88	68.10
67	67.89	68.11	68.33	68.55	68.77	68.99	69.21
68	68.90	69.12	69.34	69.56	69.78	70.00	70.22
69	69.01	69.23	69.45	69.67	69.89	70.11	70.33
70	70.12	70.34	70.56	70.78	71.00	71.22	71.44
71	71.23	71.45	71.67	71.89	72.11	72.33	72.55
72	72.34	72.56	72.78	73.00	73.22	73.44	73.66
73	73.45	73.67	73.89	74.11	74.33	74.55	74.77
74	74.56	74.78	75.00	75.22	75.44	75.66	75.88
75	75.67	75.89	76.11	76.33	76.55	76.77	76.99
76	76.78	77.00	77.22	77.44	77.66	77.88	78.10
77	77.89	78.11	78.33	78.55	78.77	78.99	79.21
78	78.90	79.12	79.34	79.56	79.78	80.00	80.22
79	79.01	79.23	79.45	79.67	79.89	80.11	80.33
80	80.12	80.34	80.56	80.78	81.00	81.22	81.44
81	81.23	81.45	81.67	81.89	82.11	82.33	82.55
82	82.34	82.56	82.78	83.00	83.22	83.44	83.66
83	83.45	83.67	83.89	84.11	84.33	84.55	84.77
84	84.56	84.78	85.00	85.22	85.44	85.66	85.88
85	85.67	85.89	86.11	86.33	86.55	86.77	86.99
86	86.78	87.00	87.22	87.44	87.66	87.88	88.10
87	87.89	88.11	88.33	88.55	88.77	88.99	89.21
88	88.90	89.12	89.34	89.56	89.78	90.00	90.22
89	89.01	89.23	89.45	89.67	89.89	90.11	90.33
90	90.12	90.34	90.56	90.78	91.00	91.22	91.44
91	91.23	91.45	91.67	91.89	92.11	92.33	92.55
92	92.34	92.56	92.78	93.00	93.22	93.44	93.66
93	93.45	93.67	93.89	94.11	94.33	94.55	94.77
94	94.56	94.78	95.00	95.22	95.44	95.66	95.88
95	95.67	95.89	96.11	96.33	96.55	96.77	96.99
96	96.78	97.00	97.22	97.44	97.66	97.88	98.10
97	97.89	98.11	98.33	98.55	98.77	98.99	99.21
98	98.90	99.12	99.34	99.56	99.78	100.00	100.22
99	99.01	99.23	99.45	99.67	99.89	100.11	100.33
100	100.12	100.34	100.56	100.78	101.00	101.22	101.44

**DES MILLIERS DE
PARAMÈTRES
MESURÉS
PRODUCTION DE
GROS VOLUMES
DE DONNÉES**

Protéomique : analyse des protéines

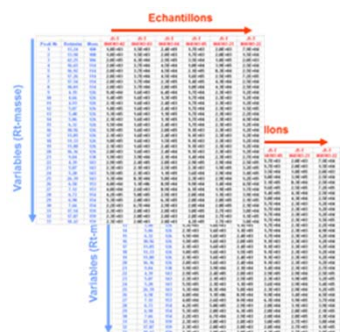
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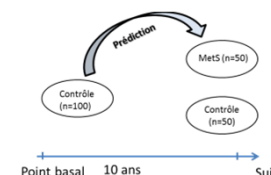
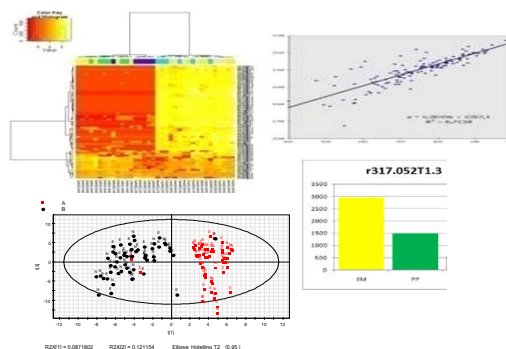
Echantillons

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1	1.23	1.45	1.67	1.89	2.11	2.33	2.55
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10	10.12	10.34	10.56	10.78	11.00	11.22	11.44
11	11.23	11.45	11.67	11.89	12.11	12.33	12.55
12	12.34	12.56	12.78	13.00	13.22	13.44	13.66
13	13.45	13.67	13.89	14.11	14.33	14.55	14.77
14	14.56	14.78	15.00	15.22	15.44	15.66	15.88
15	15.67	15.89	16.11	16.33	16.55	16.77	16.99
16	16.78	17.00	17.22	17.44	17.66	17.88	18.10
17	17.89	18.11	18.33	18.55	18.77	18.99	19.21
18	18.90	19.12	19.34	19.56	19.78	20.00	20.22
19	19.01	19.23	19.45	19.67	19.89	20.11	20.33
20	20.12	20.34	20.56	20.78	21.00	21.22	21.44
21	21.23	21.45	21.67	21.89	22.11	22.33	22.55
22	22.34	22.56	22.78	23.00	23.22	23.44	23.66
23	23.45	23.67	23.89	24.11	24.33	24.55	24.77
24	24.56	24.78	25.00	25.22	25.44	25.66	25.88
25	25.67	25.89	26.11	26.33	26.55	26.77	26.99
26	26.78	27.00	27.22	27.44	27.66	27.88	28.10
27	27.89	28.11	28.33	28.55	28.77	28.99	29.21
28	28.90	29.12	29.34	29.56	29.78	30.00	30.22
29	29.01	29.23	29.45	29.67	29.89	30.11	30.33
30	30.12	30.34	30.56	30.78	31.00	31.22	31.44
31	31.23	31.45	31.67	31.89	32.11	32.33	32.55
32	32.34	32.56	32.78	33.00	33.22	33.44	33.66
33	33.45	33.67	33.89	34.11	34.33	34.55	34.77
34	34.56	34.78	35.00	35.22	35.44	35.66	35.88
35	35.67	35.89	36.11	36.33	36.55	36.77	36.99
36	36.78	37.00	37.22	37.44	37.66	37.88	38.10
37	37.89	38.11	38.33	38.55	38.77	38.99	39.21
38	38.90	39.12	39.34	39.56	39.78	40.00	40.22
39	39.01	39.23</					

TRAITEMENT DES DONNEES MASSIVES GÉNÉRÉES



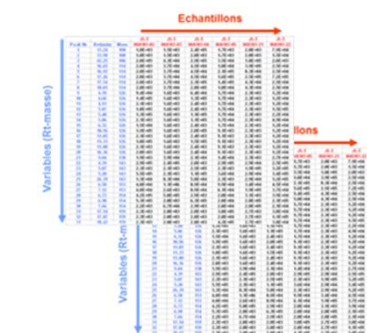
Analyses statistiques



→ **Identification de nouveaux biomarqueurs**

→ **Outil de diagnostic précoce du SMet**

→ **Meilleure compréhension des mécanismes biologiques en jeu**



Modélisation

