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2003 9 1 —2016 1 31 129
CT -
AAST-OIS Becker 102 20 II 37 III 21
IV 24 27 III 12 IV 15 K^+
Na^+ ROC
K^+ Na^+
K^+ Na^+ K^+
3.625 mmol/L Na^+ 140.2 mmol/L K^+ 3.625 mmol/L
Na^+ 140.2 mmol/L K^+ Na^+
P=0.254 P=0.619 P=0.206 P=0.87
K^+ P<0.05 Na^+ P<0.05 III IV K^+ Na^+
P=0.729 P=0.57 K^+ Na^+ P<0.001 r=-0.534
P<0.001 r=-0.504
K^+ Na^+

R657.3

20~30%
[1] [3] [4]
55% 75% K^+
K^+
K^+ Na^+
K^+ Na^+
[2] CT K^+ Na^+

1

1.1

2003 9 —2016 1
129

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/
Email: zhangkun73@aliyun.com

β

AAST-OIS Becker [5] I II III IV CT 102 71 31 I 20 II 37 III 21 IV 24 27 23 4 38 ± 20 13 59 14 12 31 P=0.90 P=0.053 P=0.30 1 0.5~12 h

OLYMPUS AU2700

K^+ 3.7~5.4 mmol/L Na^+ 136~145 mmol/L

1.2

- - AAST-OIS I <10% <1cm II 10%~50% <10 cm 1~3 cm <10 cm III >50% >10 cm >3 cm IV 25%~75% 1~3 Couinaud 75% 3 Couinaud /

1 n=129

	n=102								n=27	t/χ^2	P
	I	n=20	II	n=37	III	n=21	IV	n=24			
	44 ± 17		36 ± 18		28 ± 18		36 ± 15		38 ± 20	2.064	0.90
[n %]											
	10	50.0	27	73.0	18	85.7	16	66.7	23 85.2	2.407	0.053
	10	50.0	10	27.0	3	14.3	8	33.3	4 14.8		
[n %]											
	2	10.0	6	16.2	0	0	2	8.3	3 11.1	1.234	0.30
	11	55.0	11	29.7	12	57.1	12	50.0	13 48.2		
	2	10.0	3	8.1	2	9.5	1	4.2	6 22.2		
	2	10.0	5	13.5	0	0	3	12.5	2 7.4		
	3	15.0	12	32.5	7	33.4	6	25.0	3 11.1		

1.3

SPSS18.0 K-S ± $\bar{x} \pm s$ M IQR t Mann-Whitney U ROC Pearson K^+ Na^+ P<0.05

2

2.1

102 I 20 19.6% (44 ± 17) II 37 36.3% (36 ± 18) III 21 20.6% (28 ± 18) IV 24 23.5% (36 ± 15) 57 55.9% 37 64.9% 20 35.1% 45 44.1% 34 75.6% 11 24.4%

2.2 K^+ Na^+

I II III IV

K^+ Na^+ P 0.388 0.150 >0.05 K^+ Na^+ P 0.62 0.75 >0.05

$P<0.001$ I II K^+ Na^+ $P>0.05$ I II III IV K^+ $P=0.015$ $P=0.004$ $P=0.005$ $P=0.001$ III IV K^+ $P<0.001$ I II III IV Na^+ $P=0.007$ $P=0.031$ $P=0.001$ $P=0.004$ III IV Na^+ $P=0.001$ $P=0.005$ 2-3 III IV K^+ Na^+ $P=0.729$ $P=0.57$ 4

2 K^+ Na^+ mmol/L $\bar{x} \pm s$

		I	II	III	IV	F	P
K^+	4.22 ± 0.39	4.08 ± 0.32	4.08 ± 0.42	3.74 ± 0.49	3.69 ± 0.50	7.142	<0.001
Na^+	138.94 ± 2.81	139.40 ± 3.15	139.07 ± 2.68	142.07 ± 4.05	141.46 ± 3.13	5.408	<0.001

3 K^+ Na^+

	P K^+	P Na^+
I		
II	0.954	0.704
III	0.015	0.007
IV	0.004	0.031
	0.254	0.619
II		
III	0.005	0.001
IV	0.001	0.004
	0.206	0.87
III		
IV	0.687	0.512
	<0.001	0.001
IV		
	<0.001	0.005

4

	III	IV	P
K^+	3.74 ± 0.54	3.73 ± 0.54	0.729
Na^+	142.12 ± 4.09	141.46 ± 3.13	0.57

2.3 K^+ Na^+

K^+ Na^+ $P<0.001$ $r=-0.534$ $P<0.001$ $r=-0.504$ $P=0.003$ $r=-0.390$ 5-7

5 K^+ Na^+

		IV	P	r
K^+	3.92 ± 0.47	3.73 ± 0.54	<0.001	-0.534
Na^+	140.31 ± 3.41	141.46 ± 3.13		

6 K^+ Na^+

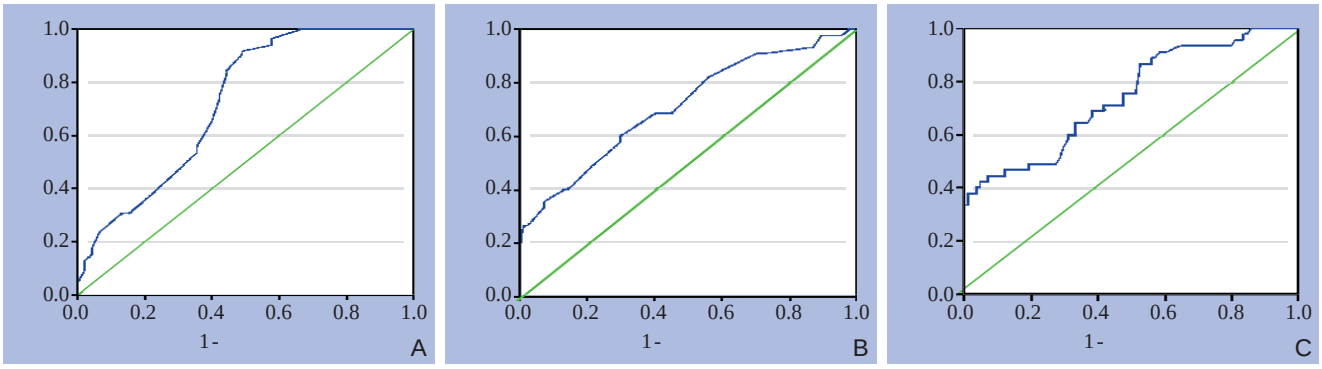
	III	IV	P	r
K^+	3.74 ± 0.54	3.73 ± 0.54	<0.001	-0.504
Na^+	142.12 ± 4.09	141.46 ± 3.13		

7 K^+ Na^+

	I	II	P	r
K^+	4.07 ± 0.32	4.082 ± 0.42	0.003	-0.390
Na^+	139.40 ± 3.15	139.07 ± 2.68		

2.4 K^+ Na^+ ROC

K^+ ROC 0.721 $P<0.001$ 91.66% 51.12% Na^+ ROC 0.712 $P<0.001$ 60% 70.24% K^+ Na^+ ROC 0.742 $P<0.001$ 44.4% 92.9% 1 ROC K+ Na^+ 3.625 mmol/L 140.2 mmol/L



1 K^+ Na^+ ROC A K^+ B Na^+ C K^+ Na^+

3 cAMP Na^+-K^+ [12-13]

- - -

Glisson [6] Na^+-K^+-ATP Na^+-K^+-ATP

Na^+-K^+ 3 K^+ 2 Na^+

[7] K^+

Sevier-M unger Na^+

K^+ Na^+

K^+ Na^+ K^+

K^+ K^+ Na^+

Na^+ Na^+

Stoyanova [8] K^+ Na^+

Na^+-K^+ [4]

Gardemann [9] K^+ III

IV K^+ Na^+

neurorrspecificrendolase, NSE

60%

Miyazawa [10] S-100

NSE

K^+

[11-12]

[14-16]

[14-16]

β

K^+ 3.625 mmol/L Na^+ 140.2 mmol/L

[16-17]

K^+ Na^+

[18-19]

100%[20-21]

alanine aminotransferase ALT aspartate aminotransferase AST ALT AST Lactate dehydrogenase LDH

ALT AST 2 93.1% 38.5%[22] K^+ 3.625 mmol/L 91.66% 51.12% Na^+ 140.2 mmol/L 60% 70.24% K^+ Na^+ 44.4% 92.9% ROC K^+ Na^+ K^+ Na^+

K^+ 3.625 mmol/L Na^+ 140.2 mmol/L ALT AST 2

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