

عزل وتشخيص بكتريا *Acinetobacter baumannii* المعزولة من حالات مرضية مختلفة وتشخيص عزلات *Acinetobacter* المزروعة على وسط أنغار الدم الحاوي على السكريات

424 *Acinetobacter baumannii* 34
/ %8.01 ()
Api 20 E () ()
% (2 6 11 15) () *Acinetobacter baumannii*
Acinetobacter .
Aldose .

Abstract

Acinetobacter baumannii was isolated from 424 samples from wound , urine , sputum , and blood, which were collected from Baghdad hospital / Medical city, 34 isolates (8.01 %) of *Acinetobacter baumannii* was identified depending on the morphological , cultural ,and biochemical characteristics , by Api 20 E system.

The infection rate by *Acinetobacter baumannii* identified samples (wound , urine , sputum , and blood) were (15 , 11, 6, 2) % respectively .

The ability of *Acinetobacter* isolates to discolored blood agar that containing sugars was detected .All isolates showed their ability to discolored blood agar that containing sugars only from type aldose.

Acinetobacter

A.baumannii

Haseley and Wilkinson,1996 ; Jawad *et al* (1,2,3) Nosocomial infection

al ., 1996 ; Chang *et al* ., 2005)

(Biendo *et al* ., 1999(; Wang *et al* ., 2002))

(Siau *et al* ., 1996) *Acinetobacter* Outbreaks

Opportunistic

(7,8,9,10) (Husni *et al*., 1999 ;Lee *et al*., 2003 .

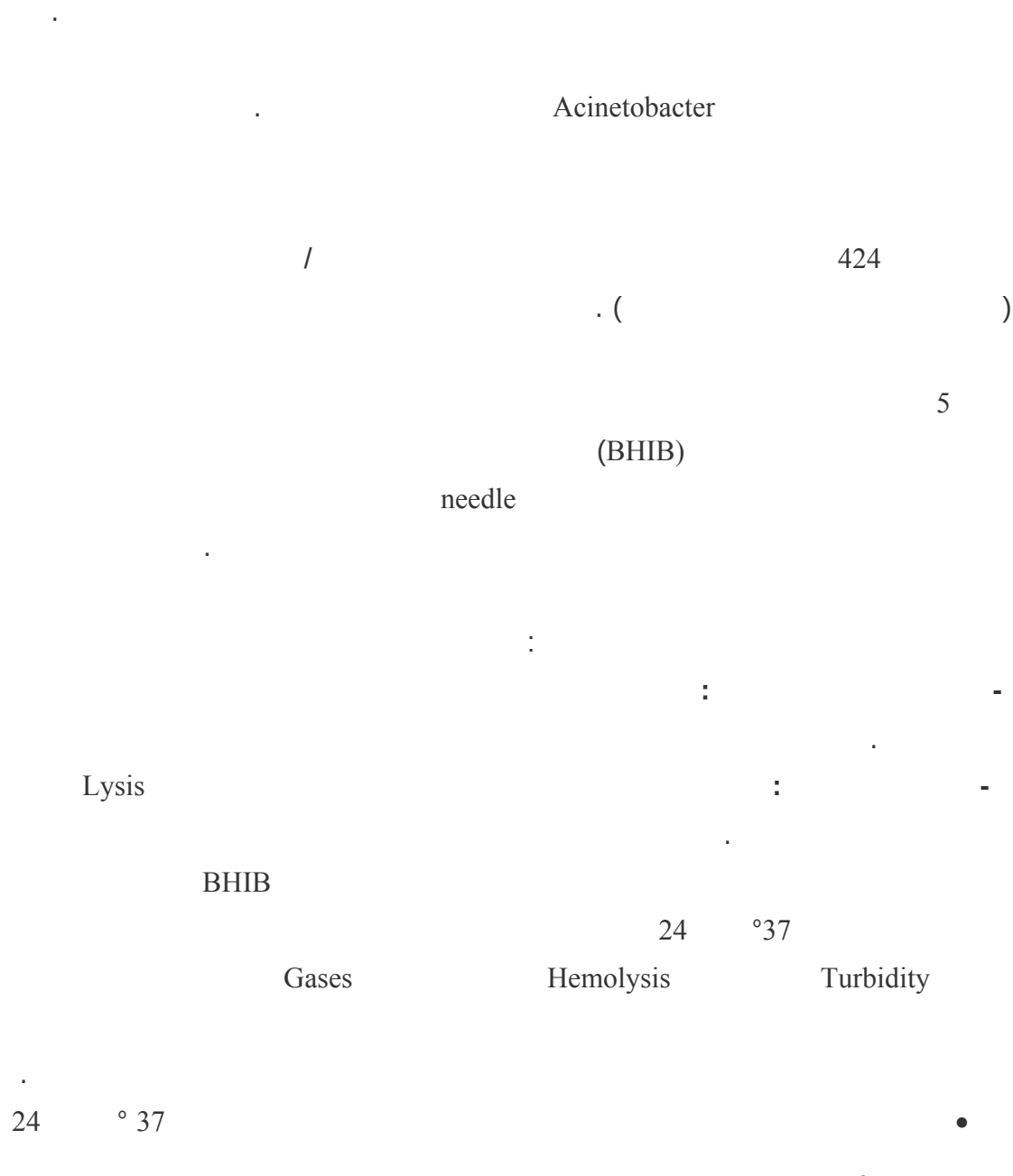
; Ribera *et al* ., 2003 ; Prashanth and Badrinath ,2004)

:

(Bergogne-

Berezin and Towner , 1996 ; Clark *et al* ., 2003 ; Chang *et al* ., 2005)

(Snelling *et al* ., 1996 ; Hernandes *et al* ., 2004). .
Swenson *et al* . (2004) Jawad *et al*. (1998)



44

.(Baron *et al* ., 1994; Atlas *et al* .,1995)

Api 20 E

(Bio Meurieux)

20

: **Acinetobacter**

: Siau *et al* .(1998)

/	%4	Mannitol,Sucrose ,Lactose,Mannose,Glucose	/	%7.5	/	%7.5	/	%3
---	----	---	---	------	---	------	---	----

50

0.22

Siau *et al* .(1998)

Acinetobacter baumannii

Api 20E

Mannitol , Sucrose , Lactose , Mannose , Glucose

Pseudomonas aeruginosa

%2

Moraxella catarrhalis *Pseudomonas flurecense*

24 ° 37

Acinetobacter baumannii

424 *Acinetobacter baumannii*

34

% 8.01 *Acinetobacter*

(1)

Acinetobacter

(1)

—	
+	37
+	44
+	
—	
+	
—	
+	
—	

: Api 20 E

Api 20E

Api 20E analytical profil index

20

. *Acinetobacter baumannii*

34

:

Acinetobacter baumannii

Acinetobacter baumannii

(2)

424

Acinetobacter baumannii

%44.11

34

Snelling *et al* .(1996) Jawad *et al* .(1996) Jawad *et al* .(1998)

Acinetobacter

(2,13,16)

(%32.35) 11

Bergogne-Berezin and Towner , 1996 ;

(Vidal *et al* ., 1996)

(%17.64)6

(%5.58)2

(2000)

%15.6

Acinetobacter baumannii

%7.1

(2004)

%29.73

Acinetobacter baumannii

. %10.81

Yaman (1998)

%33.3

Acinetobacter baumannii

%11.5

%13.2

Biendo *et al* .(1999)

Acinetobacter

Mucous

Normal flora

%			
32.35	11	165	()
44.11	15	109	()
17.64	6	100	()
5.88	2	50	()
100	34	424	

:

Acinetobacter

Acinetobacter baumannii

Lactose Mannose Glucose Aldose

. NaCl mannitol sucrose

Pseudomonas florence *Pseudomonas aeruginosa*

(1)

Moraxella catarrhalis

Acinetobacter baumannii

Pseudomonas aeruginosa

.

Moraxella catarrhalis

Acinetobacter

Jawetz et al.(2001)

.

Aldose

(glucose GDH

Siau et al . (1998).

dehydrogenase) aldose dehydrogenase

GDH

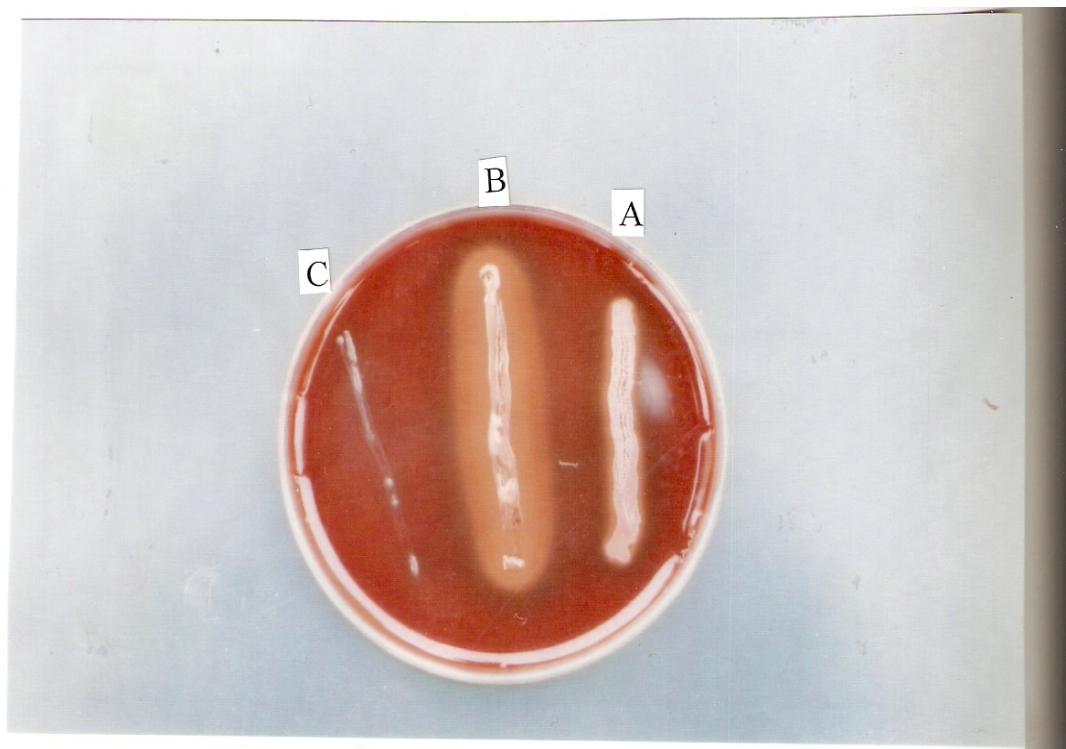
Acinetobacter calcoaceticus

Membrane bound

Soluble

Soluble GDH
Acinetobacter

Acinetobacter



(1) :

Pseudomonas aeruginosa A

Acinetobacter baumannii B

Moraxella catarrhalis C

- Atlas, R.M.; Parks, L.C.; and Brown, A.E. (1995). Laboratory Manual Experimental Microbiology. Mosby. U.S.A.
- Baron, E.J.; and Finegold, S.M. (1994). Baily & Scotts' Diagnostic Microbiology .8th ed. C.V. Mosby Company . S.T. Louis Baltimore Philadelphia. Toronto.
- Bergogne-Berezin, E.; and Towner, K.J. (1996). *Acinetobacter spp.* As nosocomial pathogen: Microbiological, Clinical, and Epidemiological features. Clin. Microbiol. 9(2) : 148 – 165
- Biendo, M.; Laurans, G.; Lfobvre, J.F.; Daoudi, F.; and Eb, F. (1999). Epidemiological study of an *Acinetobacter baumannii* outbreak by using a combination of antibotyping and ribotyping. J. Clin. Microbiol. 37 (7) : 2170 – 2175
- Clark, N.M.; Patterson, J.; and Lynch, J.P. (2003). Antimicrobial resistance among gram-negative organisms in the intensive care unit. Curr. Opin. Crit. Care 9:413 – 423
- Chang, H.C.; Wei, Y.F.; Dijkshoorn, L.; Vaneechoutte, M.; Tang, C.T.; and Chang, T.C. (2005). species-level identification of isolates of the *Acinetobacter*

- calcoaceticus* – *Acinetobacter baumannii* complex by sequence analysis of the 16S – 23SrRNA spacer region . J. Clin. Microbiol. 43(4): 1632 – 1639
- Haseley ,S.R.; and Wilkinson , S.G.(1996) Structure of the O- specific polysaccharide of *Acinetobacter baumannii* O5 containing 2 – acetamido – 2 deoxy – D – galacturonic acid . Eur . J. Biochem. 237 : 229 – 233
- Hernandes, S.E.D.; Mello, A.C.; Santana, J.J.; Soares, V.S.; Cassiolato, V.; Garcia , L.B.; and Cardoso, C.L. (2004) The effectiveness of alcohol gel and other hand-cleaning agent against important nosocomial pathogens . Braz.J. Microbiol
- Husni, R.N.; Goldstein , L.S.; Arroliga , A.C.; Hall,G.S.; Fatica,S;Stoller,J.K.; and Gordon , S.M. (1999) Risk factors for an outbreak of multi-drug- resistant *Acinetobacter* nosocomial pneumonia among intubated patients. Chest. 115: 1378 – 1382
- Jawad,A.; Selfert, H.; Snelling, A.M.; Heritage, J.; and Hawkey,P.M.(1998) Survival of *Acinetobacter baumannii* on dry surfaces:Comparison of outbreaks and sporadic isolates.J.Clin. Microbiol. 36 (7) :1938 – 1941
- Jawad,A.; Heritage,J.; Snelling,A.M.;Gascoyne – Binzi,D.M.; and Hawkey,P.M.(1996) Influence of relative humidity and suspending menstrual on survival of *Acinetobacter spp.* On dry surfaces. J.Clin. Microbiol. 34(12): 2881 – 2887
- Jawetz,E.; Melnick, J.; and Adelberg, E.A.(2001) Review of Medical Microbiology. Appleton and Longe.
- Lee , K.; Lee,W. G. ; Uh, Y.; Ha, G.Y.; Cho, J.; and Chong, Y. (2003) VIM – and IMP-Type Metallo-β- Lactamase-producing *Pseudomonas spp.* And *Acinetobacter spp.* In Korean Hospital . Emerg . Infec. Dis. 9(7)
- Prashanth, K.; and Badrinath , S.(2004) In vitro susceptibility pattern of *Acinetobacter species* to commonly used cephalosporins, quinolones , and aminoglycosides . Ind. J. Med . Microbiol. 22(2) : 197 – 103
- Ribera , A.; Ruiz , J.; and Vila , J.(2003) Presence of the Tet M Determinant in a Clinical isolates of *Acinetobacter baumannii* . Anti. Agent . Chemo. 47(7) : 2310 – 2312
- Siau , H.; Yuen, K.Y.; Wong, S.S.; Ho, P.L., and Luk , W.K.(1996) The epidemiology of *Acinetobacter* infections in Hong Kong .J.Med.Microbiol. 44:340 – 347
- Siau , H.; Yuen , K.; Ho , P. ; Luk , W.; Wong , S.S.Y.; Woo, P.C.Y.; Lee , R.A. ; and Hui , W. (1998) Identification of *Acinetobacters* on blood agar in presence of D – Glucose by unique browning effect .J.Clin.Microbiol. 36 (5(: 1404 – 1407
- Snelling ,A.M.; Smidt,P.G.; Hawkey ,P.M.; Heritage,J.;Parnell,P.; Porter,C.; Bodenham,A.R.; and Inglis,T.(1996) Validation of use of whole – cell repetitive extragenic palindromic sequence – based PCR (REP-PCR) for typing strains belonging to the *Acinetobacter calcoaceticus* - *Acinetobacter baumannii* complex and application of the method to the investigation of a hospital outbreak . J.Clin Microbiol. 34(5) : 1193 – 1202
- Swenson ,J.M.; Killogore,G.E.; and Tenover ,F.C.(2004) Antimicrobial susceptibility testing of *Acinetobacter spp.* By NCCLs broth microdilution and disk diffusion methods . J.Clin. Microbilo. 42(11) : 5102 – 5108
- Vidal,R.; Dominguez,M.; Urrutia,H.; Bello,H.;Gonzalez,G.; Garcia,A.; and Zemelman,R.(1996) Biofilm formation by *Acinetobacter baumannii* . Microbios 86 (346) : 49 – 58

Wang, J.; McDonald, L.C.; Chang, S.; and Ho,M.(2002) Community – Aquired *Acinetobacter baumannii* Bacteremia in adult patient in Taiwan. J. Clin. Microbiol. 40(4):1526 – 1529

Yaman ,A.(1998) Antibiotic resistance in *Acinetobacter species* in nosocomial and outpatient infections . Ann. Med. Sci. 7 : 31 – 34

. (2004)

. / . *Acinetobacter baumannii*

Acinetobacter baumannii . (2000)

. / .