Epidemiological situation and diagnosis of Rabies in Iraq
Rabies is an acute viral disease of warm-blooded animals, which may incidentally affect man, it is endemic in Iraq specifically in rural areas (75%), Dogs are the main animals to be affected in Iraq and may induce the disease in human by dog bite so stray dogs are dangerous.
There is unit of zoonotic diseases in each governorate responsible about collection data on rabies, dog bites and post exposure anti rabies vaccination.
Data to be collected from fever hospitals and general hospitals in provinces and districts. All Data it will be send to zoonotic section in CDC in Baghdad to analysis and for planning control.
CDC also responsible for the provision of rabies vaccine and serum (passive immunization by MOH) and supervision for implementing control planning in provinces, coordination with other departments like veterinary Dep. And others.
Diagnosis done on clinical base (encephalitis, hydrophobia with dog bite history) there is no Lab. Diagnosis at present.
Results

- incidence of rabies in Iraq in 2007 are 22 case (7 case of them are in Basrah province in south Iraq (0.29 / 100000), about 75% of the cases in rural areas.
Case fatality rate 100%.

- most of cases are not vaccinated or getting delay or incomplete vaccine.

- Dog bites registered yearly all over provinces and it is the problem which leads to the probability of rabies.
- The incidence rate of dog bites in 2007 is 57 / 100000.
- There is about 17000 dog bite registered in Iraq in 2007 and real number is more.
- The rate of rabies in dog bites in 2007 is 0.13%.

There is no relation between incidence of rabies and dog bites.
- Male, female ratio 9.5 to 1, in 2007.
- Age affected between 2.5 years and 24 years.
- Cases registered in all months of the year.
- Basrah, Babel, Baghdad, Theqar, Wasit province are mostly affected in 2007.
Yearly Average Dog Bites for the 5 year is (13000) about:
75% get 1st dose of Anti rabies.
60% get 2nd dose of Anti rabies.
35% get 3rd dose of Anti rabies.
14% get 4th dose of Anti rabies.
7% get 5th dose of Anti rabies.
Discussion

- the priority of the rabies disease as public health problem still under the expected need.
- Real problem is dog bites specially from stray dogs which their number are increasing because of the weak killing attack implemented due to security condition of the country.
- The low awareness of people to post exposure of anti rabies vaccine specially in last doses.
- People don’t care about their domestic dogs specially in rural areas which need animals vaccination.
Table (1) Dog bites and Rabies cases in 2007 and according to provinces

<table>
<thead>
<tr>
<th>Province</th>
<th>Rabies cases</th>
<th>Dog bites</th>
<th>I . R 100000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salah-eldin</td>
<td>1</td>
<td>845</td>
<td>0.07</td>
</tr>
<tr>
<td>Baghdad</td>
<td>3</td>
<td>4610</td>
<td>0.03</td>
</tr>
<tr>
<td>Babil</td>
<td>5</td>
<td>1050</td>
<td>0.27</td>
</tr>
<tr>
<td>Theqar</td>
<td>2</td>
<td>713</td>
<td>0.11</td>
</tr>
<tr>
<td>Missan</td>
<td>1</td>
<td>512</td>
<td>0.1</td>
</tr>
<tr>
<td>wasit</td>
<td>2</td>
<td>1430</td>
<td>0.16</td>
</tr>
<tr>
<td>Basrah</td>
<td>7</td>
<td>2400</td>
<td>0.29</td>
</tr>
<tr>
<td>diwania</td>
<td>1</td>
<td>722</td>
<td>0.08</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>12282</td>
<td></td>
</tr>
</tbody>
</table>
## Rabies cases according to years

<table>
<thead>
<tr>
<th>Years</th>
<th>Rabies cases</th>
<th>I.R/100000</th>
<th>Highest no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>14</td>
<td>0.07</td>
<td>Bag. 4 case</td>
</tr>
<tr>
<td>2001</td>
<td>7</td>
<td>0.03</td>
<td>Bag. 2 case</td>
</tr>
<tr>
<td>2002</td>
<td>12</td>
<td>0.05</td>
<td>Nina. 5 case</td>
</tr>
<tr>
<td>2003</td>
<td>14</td>
<td>0.06</td>
<td>Bag. 3 case</td>
</tr>
<tr>
<td>2004</td>
<td>21</td>
<td>0.08</td>
<td>Anb. 5 case</td>
</tr>
<tr>
<td>2005</td>
<td>29</td>
<td>0.11</td>
<td>Was. 7 case</td>
</tr>
<tr>
<td>2006</td>
<td>11</td>
<td>0.04</td>
<td>Was. 3 case</td>
</tr>
<tr>
<td>2007</td>
<td>22</td>
<td>0.07</td>
<td>Bas. 7 case</td>
</tr>
<tr>
<td>1/6/2008</td>
<td>9</td>
<td>0.03</td>
<td>Dai. 3 case</td>
</tr>
<tr>
<td>Province</td>
<td>R. C.</td>
<td>Age / y.</td>
<td>month</td>
</tr>
<tr>
<td>--------------</td>
<td>-------</td>
<td>-----------</td>
<td>-------------</td>
</tr>
<tr>
<td>Theqar</td>
<td>2</td>
<td>23,9</td>
<td>6/10</td>
</tr>
<tr>
<td>Salaedin</td>
<td>1</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>Missan</td>
<td>1</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Baghdad</td>
<td>3</td>
<td>15,3.5,5</td>
<td>5/8/10</td>
</tr>
<tr>
<td>Babil</td>
<td>5</td>
<td>40,9,6,9,4</td>
<td>3/8/10</td>
</tr>
<tr>
<td>Basrah</td>
<td>7</td>
<td>6,11,12,7,12,5,2.5</td>
<td>3/6/7/10</td>
</tr>
<tr>
<td>Diwania</td>
<td>1</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td>wasit</td>
<td>2</td>
<td>24,18</td>
<td>3/12</td>
</tr>
</tbody>
</table>
Rabies cases by years

- Y2000: 14
- Y2001: 7
- Y2002: 12
- Y2003: 14
- Y2004: 29
- Y2005: 11
- Y2006: 22
- Y2007: 20

The highest number of cases was in Y2004 with 29 cases.
rabies cases 2007

- Diwania: 1
- Basra: 2
- Wasit: 1
- Missan: 2
- Thqar: 5
- Babylon: 3
- Baghdad: 1
- Salaheldin: 1
Dog bites 2007

- Diwania: 722
- Basrah: 2400
- Wasit: 1430
- Missan: 512
- Thqar: 713
- Babil: 4610
- Baghdad: 845
- Salaheldin: 1050
Vetrenery services about rabies in Iraq

1-RABIES IN ANIMALS

Many cases are registered in dogs, foxes, jakles in western part of Iraq specially in Anbar province by clinical diagnosis because there is no laboratory investigation, some other cases are found in other provinces like Basrah, Salah El Din, Misan, thequar, there are no bat cases registered.
2- Control measures includes;
- Animals vaccination by using Penta dog vaccine by i. m. route to be used to domestic animals
- Stray dogs control by using striknin poisoning (2 tab. Plus animal intestine) in each area spot
- Diagnosis; No laboratory investigation the clinical diag. only used at present
- A group of veterinary people (13) was trained in USA / ATLANTA for lab. diag. by using new kit techniq and are waiting the reach of this lab. Measure to Iraq to start lab. investigation
OBJECTIVES
1- To decrease the incidence rate to least level
2- To provide community protection against rabies affection and dog bites
work plan of rabies in Iraq
1- Rapid information for cases to CDC.
2- isolation of Cases in fever hospitals or inseperate rome in general hospitals .
3- self prevention measures for contact in hospitals ( masks, clothes ...)
4- management of cases in hospitals.
5- post exposure vaccination for dog bite and passive immunization (serum) in some of dog bites specially dangerous bites nearby to CNS and spinal cord and lacerated wound.
6. killing of stray dogs.
8. Careful management of dog bites wound without suturing.
9. Health education through advocacy meetings in provinces.
10- training courses for medical and paramedical people in provinces.

11- fellowships.
Recommendation

1- Health education to initiate awareness of people to dog bites and post exposure vaccination.

2- Availability of vaccine and immunoglobulin (serum) for human, vaccine for animals.
3- continuous stray dogs control.
4- Expansion of veterinary services for vaccination of dogs against rabies.
5- Establishing laboratory services for confirmation of cases.
6- provision of yearly training courses and fellowships by MOH & WHO for medical and para medical people.