

A

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(IU 15,000) A

Induction of Malformation of the External Eye with Adhesive Parts and Other External Malformations Caused by a Single Dose of Hypervitaminosis A in Swiss Mouse Embryo

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ABSTRACT

The result of this study shows a new type of eye malformations, when the pregnant mice were injected intraperitoneally in the 7th day of gestation, with a single dose of 15,000 IU of VA. We suggest to call this malformation as the external eye with adhesive and hard components. The external eye appeared in all living embryos and the histological studies showed five different forms of it. A description of other external malformations were discussed in details.

.(Meteyer, 2000)

.(Pastuszak, 2001)

:

(Kraita et al., 2002)

.

(Alt, 2000)

Teratogen

Methylmercury

(Pastuszak, 2001)

:

Accutane -13 cis RA

(2005

) Cyclophosphamide

(Alt, 2000)

(2006

)

(Mc Caffery et al., 2003)

Rubella

Toxoplasmosis

(AIDS)

(Koneman et al., 1997)

Syphilis

Amniotic Fluid

E. coli

(Alt, 2000)

.(2001

)

(VA)A

(Fleming, 2001)

(Rothman et al., 1995) :

VA

.(Zile, 2001)

.(McLaren and Frigg, 2001)

.(O'Day, 2004)

Micronutrient

VA

Retinol or Retinoic Acid (RA)

%90

VA

.

VA

.(Olson, 2003)

.....

:

A (Fleming, 2001) Folic Acid

VA

VA (Olson, 2003)

VA

(Laurence et al., 1997) VA

.

RA

(Padmanabhan et al., Wistar Rat (Ozeki and Shirai, 1998; Wischnitzer, 1975)

.(Ishikawa et al., 1998) *Suncus murinus* 1981)

A

.

(25) (14 – 10)

25

12 12

.Ad Libitum

Vaginal plug

.(Ozeki and Shirai, 1998)

.(Padmanabhan et al., 1981)

A

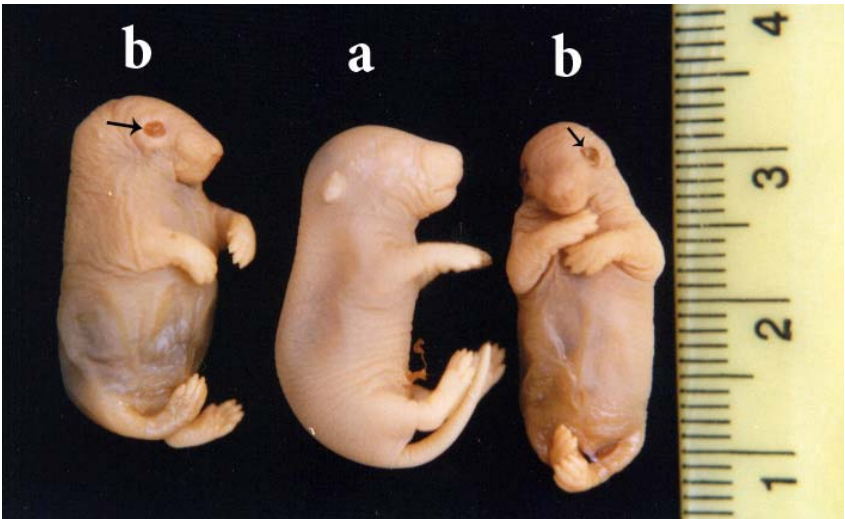
150,000 IU Medisca Farmaceutical Italy

(15,000 IU)

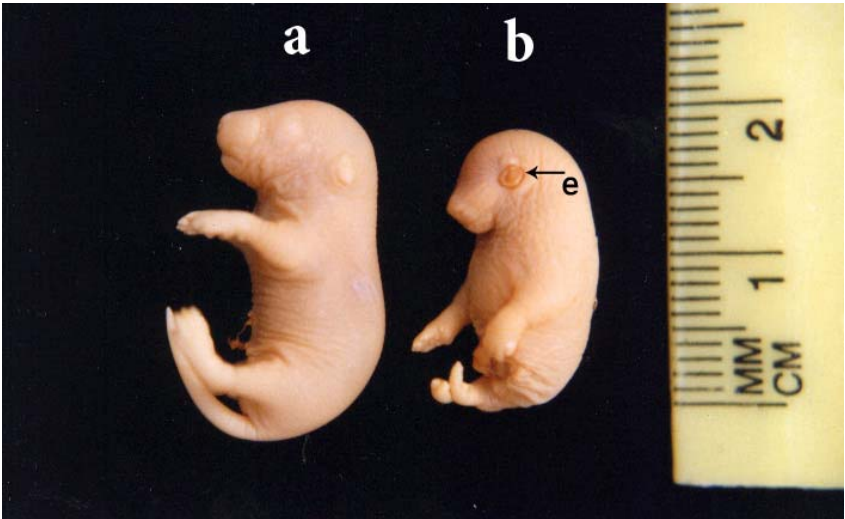
Intraperitoneal Injection A

.(Ozeki and Shirai, 1998) 1
:
.15, 000 IU VA 72 :
72 :()
(Padmanabhan et al., 1981)
(Nacl 0.9%)
48
(1968) Luna (Ozeki and Shirai, 1998)
%70
Xylene
(E H) - .7µm
DPX (Bancroft and Stevens, 1975)
(Olympus, Japan)
A
.% 95.45 IU (15000×1)
%66.7 . % 4.55
External Eyes :
(b – 1)
:
%33.3
Rounded Head
:
Duplication of Hind
Limbs

.....



. 18 : 1
() :b : a
(1 x 15,000 IU) VA .
(b - 2) 2.2 2.8
Oligodactylia
2 :Ectrodactylia
0.8



. 18 : 2
(e) :b :a
(1 x 15,000 IU) VA

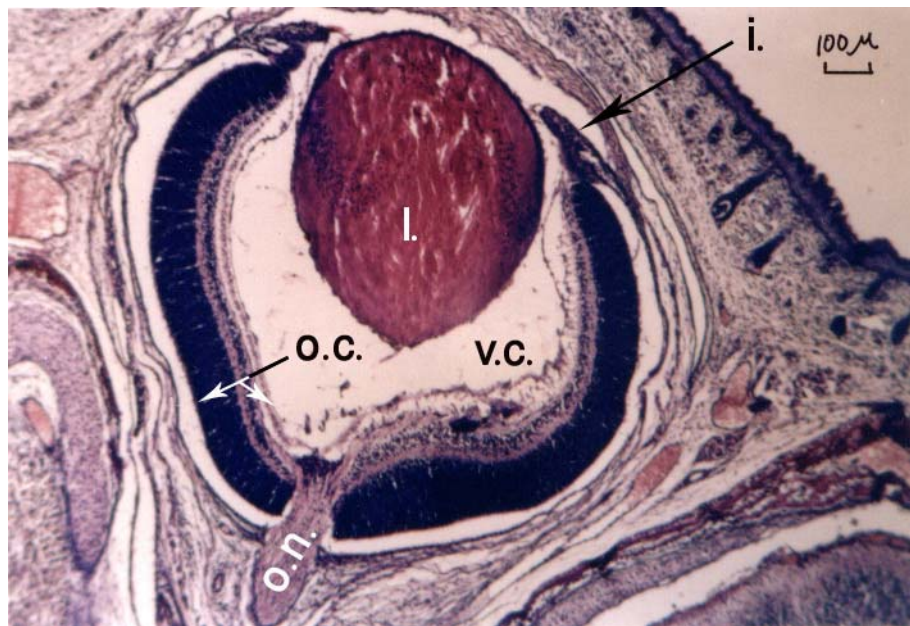
:

μm 30

μm 1100

(3)

.μm 165



18

: 3

(v.c.)

(i.)

(l.)

(o.c.)

60X

.(E H) .(o.n.)

μm 65

μm 550

μm 85

.μm 50

.....

.µm 750
:

µm 91

.
.µm 4

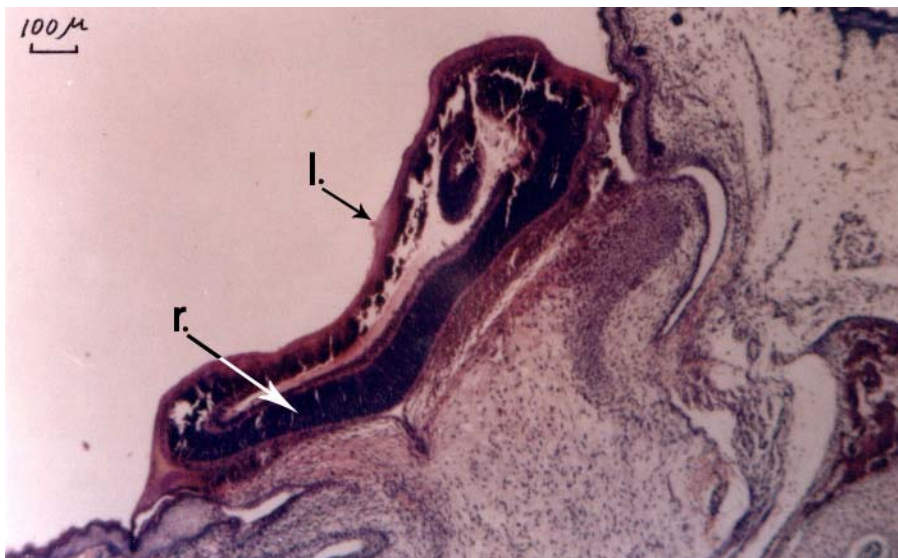
:

.µm 300

µm 1300

.1

.(4) µm 12



18

: 4

.(l.)

(r.)

.60X

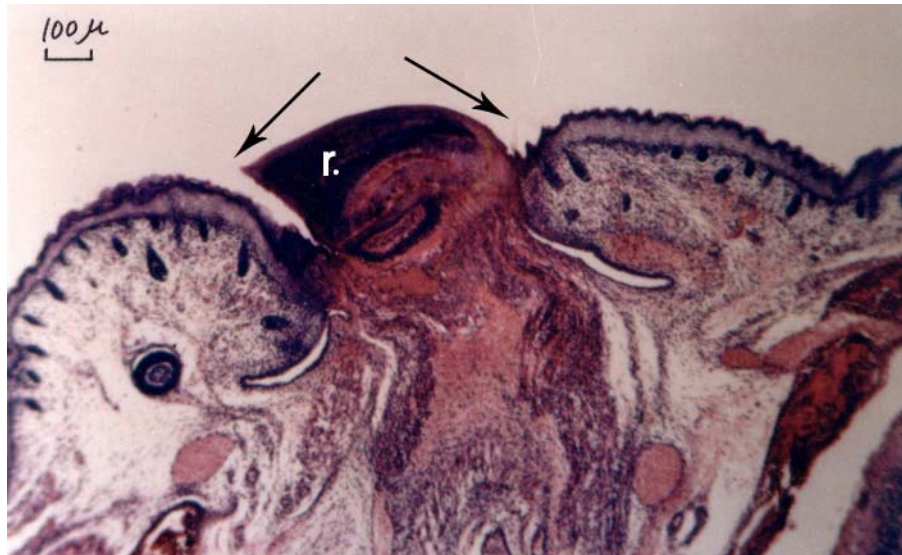
.(E H) (1 x 15,000 IU)

VA

.2

.(5)

.µm 550



(r.)

: 5

()

18

.60X

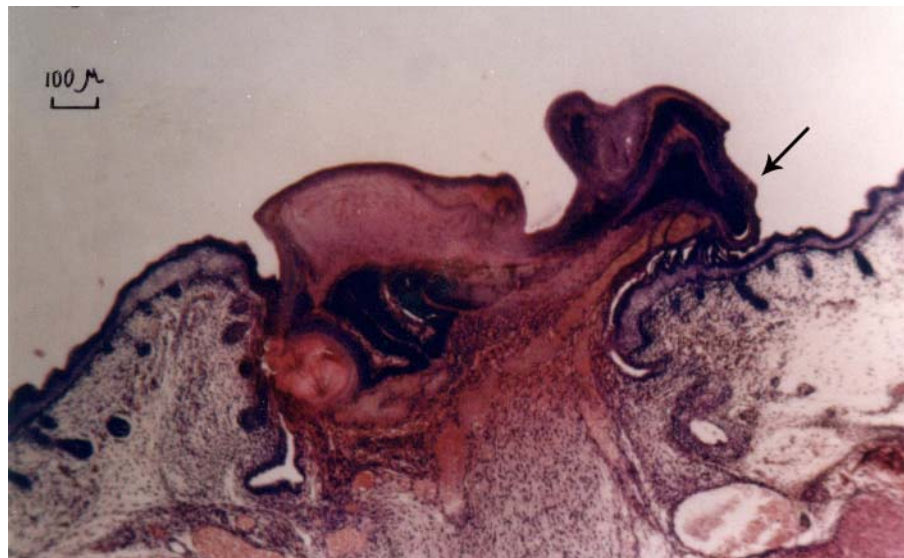
.(E H) (1 x 15,000 IU)

VA .

.3

.μm 950

.(6)



18

: 6

.(E H) (1x15,000 IU) VA.

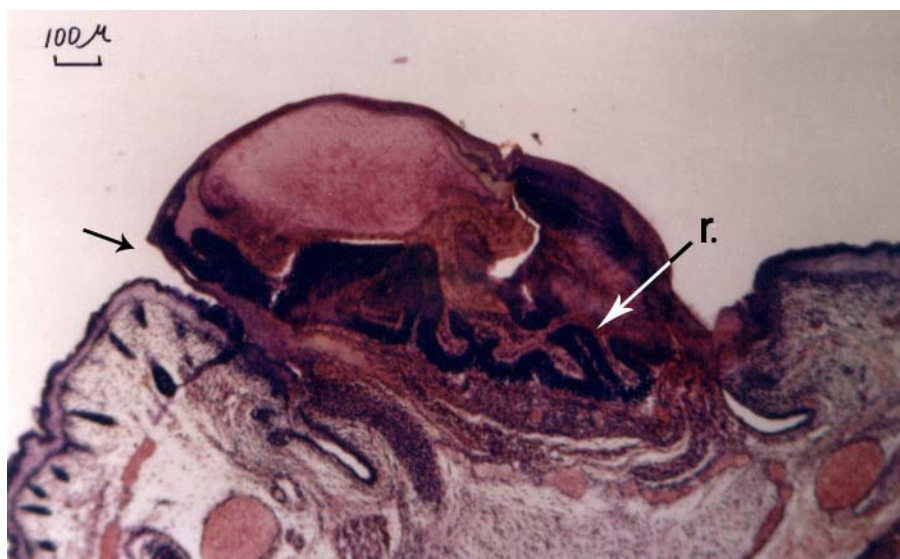
.60X

.....

.4

.µm 1200

.(7)



18

: 7

.60X

.(E H) (1 x 15,000 IU) VA

:

.5

.µm 1240

.(8) µm 90

8-14

(1998) Ozeki and Shirai

RA 12.5mg/kg

Amnion

(1998) Ozeki and Shirai

%95.5

Wistar

(1981)

Padmanabhan

VA

(1975) Wischnitzer

VA

(1995)

Rothman

.(Berry,2002)

Exophthalmia

(1998)

Ishikawa

)

(1981)

Padmanabhan

(Exophthalmia

μm 1300 – 550

VA
 (1975) Wischnitzer . %3.6 (1x15,000 IU)
 %6.3
 (15,000 IU) Retinyl Palmitate VA

A

5,000 IU
 10,000 IU
 (Rothman et al., 1995)

.2005 , ,
Mus musculus Cyclophosphamide

.2006

. *Mus musculus*

.2001 ,

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