

RESULTS

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Table (9)

No.	Age	Sex	Date	Type of eruption	Diagnosis
1	12	M	3/3/1984	V.	Drug eruption
2	5	M	18/3	P.	-Erythema toxicum neonatorum
3	5	M	5/4	P.	-Erythema toxicum neonatorum
4	1	M	26/4	V.	-Congenital candidiasis.
5	12	F	4/5	V & P.	-Periporitis staphylogenes
6	8	F	13/5	V., B & P.	-Impetigo neonatorum
7	6	M	30/5	V & B	-Impetigo neonatorum
8	20	F	18/6	V.	-Miliaria crystallina
9	30	M	22/6	V.	-Miliaria crystallina
10	15	M	6/7	V & P.	- Periporitis staphylogenes
11	4	F	9/7	P.	-Erythema toxicum neonatorum
12	2	F	16/7	P.	-Transient neonatal pustular melanosis.
13	18	M	1/8	V & P.	- Periporitis staphylogenes
14	29	M	6/8	V.	-Primary irritant contact dermatitis.
15	25	M	12/8	V.	-Miliaria crystallina
16	1	F	18/8	B.	-Sucking blister.
17	8	M	5/9	P.	-Acne neonatorum
18	2	M	3/11	V.	-Neonatal candidiasis
19	6	M	20/11	P.	-Erythema toxicum neonatorum
20	28	M	3/12	V.	-Primary irritant contact dermatitis.
21	24	M	8/12	V & P.	-Primary irritant contact dermatitis.
22	2	M	2/1/1985	P.	-Erythema toxicum neonatorum.
23	2	M	13/1	B.	-Impetigo neonatorum
24	8	F	22/1	V & P.	-Neonatal candidiasis
25	2	M	1/2	P.	-Erythema toxicum neonatorum

No.	Age	Sex	Date	Type of eruption	Diagnosis
26	27	F	4/2	V & P.	-Primary irritant contact.dermatitis.
27	1	F	10/2	V.	-Congenital candidiasis.
28	44	M	9/3	P.	-Erythema toxicum neonatorum
29	14	M	25/4	B.	-Neonatal candidiasis.
30	22	M	17/5	V.	-Miliaria crystallina.
31	28	M	19/5	V.	-Miliaria crystallina.
32	10	M	4/6	V & P.	+Periporitis staphylogenes
33	30	M	9/6	V & P.	-Miliaria rubra
34	3	M	3/7	P.	-Erythema toxicum neonatorum
35	2	F	12/7	B.	-Impetigo neonatorum.
36	25	F	16/7	V.	-Miliaria crystalina.
37	27	M	29/7	V & P.	-Primary irritant contact dermatitis.
38	25	M	2/8	V & P.	-Periporitis staphylogenes
39	18	M	2/8	V & P.	-Periporitis staphylogenes.
40	8	F	9/8	V & P.	-Neonatal candidiasis
41	22	F	9/8	V.	-Miliaria crystallina
42	25	F	12/8	V.	-Miliaria crystallina
43	20	M	14/8	V.	-Miliaria
44	10	M	2/9	V & B.	*Impetigo neonatorum
45	4	M	9/9	B.	-Impetigo neonatorum.

No.	Age	Sex	Date	Type of eruption	Diagnosis
46	16	M	12/9	V & P.	-Miliaria rubra
47	13	M	6/10	B.	-Neonatal candidiasis
48	23	M	3/11	P.	-Acne neonatorum
49	15	M	14/11	V & P.	-Erythema toxicum neonatorum
50	11	F	2/12	V & P.	-Neonatal candidiasis.

V = Vesicles

B = Bullae

P = Pustules

& = and

M = male

F = female

The previous table explains all cases studied, regarding to their serial number, age, sex, date of examination, type of skin eruption and diagnosis of each case. The studied cases were 50 cases, their ages ranged between 1 day and 30 days. They were 35 males and 15 females. Fourteen of them suffered from vesicular eruption, four suffered from bullae, ten suffered from pustules, and the rest (22 cases) suffered from more than one kind of skin eruption. 11 cases were diagnosed as miliaria, (8 cases of miliaria crystallina and 3 cases of miliaria rubra), 6 cases as sweat gland abscess, 6 cases as bullous impetigo neonatorum, 8 cases as candidiasis, 9 cases as erythema toxicum neonatorum, 5 cases as primary irritant contact dermatitis, 2 cases of acne neonatorum and one case for each of drug eruption, sucking blister, and transient neonatal pustular melanosis.

TABLE (16)

Distribution of the studied cases.

The group	Number cases	Percentage
Miliaria	11	22 %
Erythema toxicum neonatorum	9	18 %
Candidiasis	8	16 %
Perioritis staphylogens	6	12 %
Bullous impetigo neonatorum	6	12 %
Primary irritant contact dermatitis	5	10 %
Acne neonatorum	2	4 %
Drug eruption	1	2 %
Sucking blister	1	2 %
Transient neonatal pustular melanosis	1	2 %

The previous table shows the distribution of the studied cases. Cases of miliaria were the majority ones represented 22% of total cases, erythema toxicum neonatorum represented 18%, candidiases represented 16%, Periporitis staphylogenes represented 12%, bullous impetigo neonatorum represented 1 %, primary irritant contact dermatitis represented 10%, acne neonatorum represented 4% and cases of drug eruption, sucking blister and transient neonatal pustular melanosis were the minority ones represented 2 % for each case.

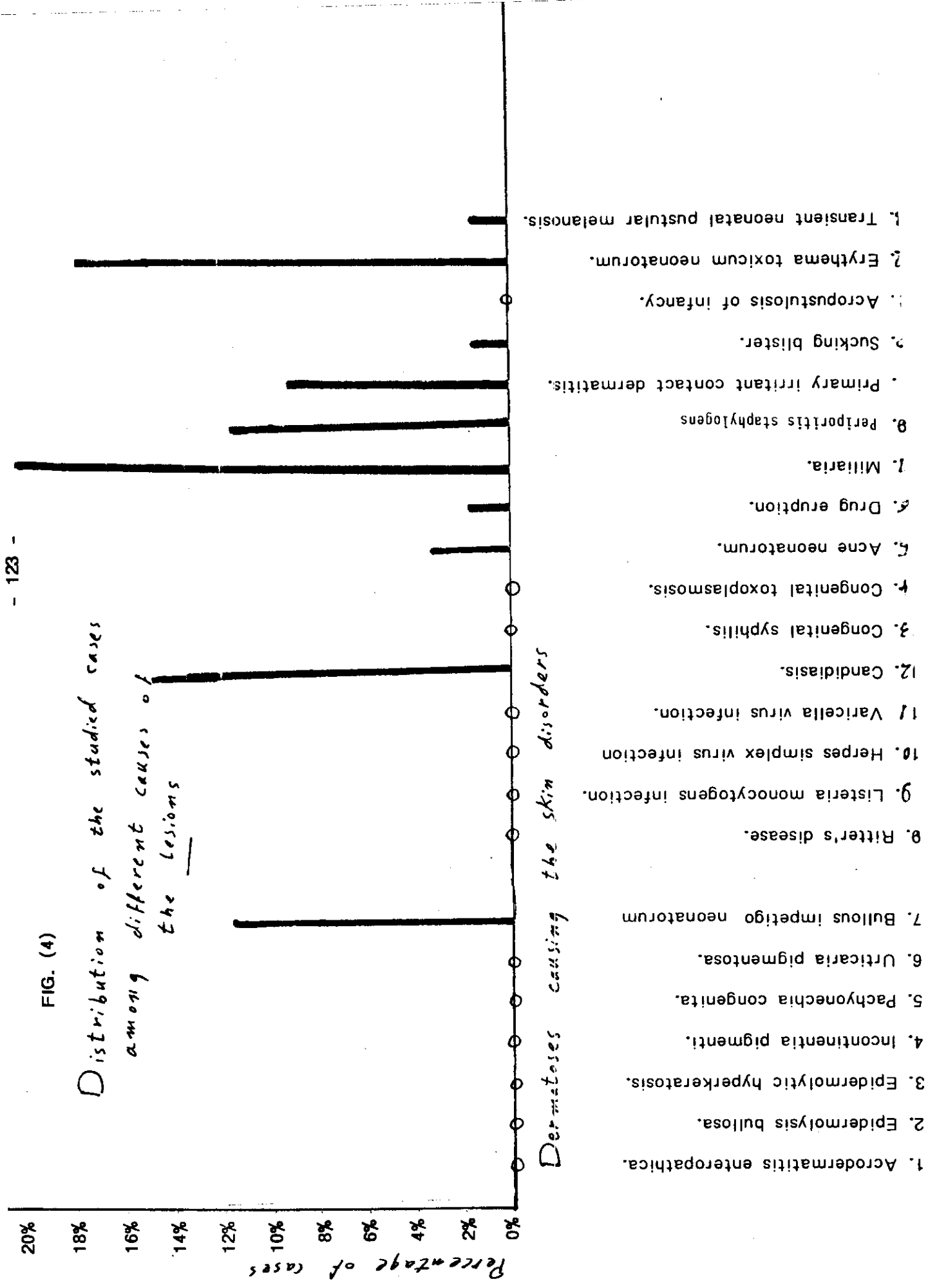


Figure (4) shows that out of the 24 causes responsible for vesicular, bullous and pustular lesions in the neonatal period, only 11 causes were demonstrated in this study.

The eleven causes found are :

- 11 cases of miliaria (representing 22% of total).
- 9 cases of erythema toxicum neonatorum (representing 18% of total).
- 8 cases of candidiasis (representing 16% of total).
- 6 cases of Perioritis staphylogens (representing 12 % of total).
- 5 cases of bullous impetigo neonatorum (representing 12 % of total).
- 5 cases of primary irritant contact dermatitis (representing 10% of total).
- 2 cases of acne neonatorum (representing 4% of total).

- 1 case of drug eruption (representing 2% of total).
- 1 case of sucking blister (representing 2% of total).
- 1 case of transient neonatal pustular melanosis representing 2% of total).

TABLE (11)

Microscopic findings in samples taken from patients with combined lesions.

Number of cases	Skin lesions	Disease	KOH Stain	Gram Stain	Giemsa Stain
6	V & P	Periporitis staphylogens	-Ve in staining	Staphylococci	Polymorphs
3	V & P	Neonatal candidiasis	Spores and pseudo hyphae.	-Ve in staining	-Ve in staining
2	V & P	Neonatal candidiasis	Pseudo hyphae	-Ve in staining	-Ve in staining
3	V & P	Primary irritant C.d.	-Ve in staining	-Ve in staining	-Lymphocytes
3	V & P	Miliaria rubra	-Ve in staining	Staphylococci	Monocytes
2	V & B	Impetigo neonatorum	-Ve in staining	Staphylococci	Polymorphs
1	V, B & P	Impetigo neonatorum	-Ve in staining	Staphylococci	Polymorphs
2	V & P	Erythema toxicum neonatorum.	-Ve in staining	-Ve in staining	Eosinophils

From the previous table we find that the incidence of Periporitis staphylogens was high (6 cases representing 27.27% of combined lesions), followed by neonatal candidiasis (5 cases representing 22.72% of combined cases) then cases of primary irritant contact dermatitis and miliaria rubra (3 cases for each disorder representing 13.63% of combined lesions), then 3 cases of impetigo neonatorum (representing 14.44% of combined lesions), then 2 case of erythema toxicum neonatorum (representing 9.9% of combined lesions)

In cases of Periporitis staphylogens , staphylococci were found in all samples as revealed by Gram stain, also polymorphs were found in all samples as revealed by Giemsa stain.

In case of neonatal candidiasis, pseudohyphae were revealed in all samples, while spores were found in only 3 cases (according to KOH stain).

In case of primary irritant contact dermatitis, Giemsa stain revealed the presence of lymphocytes eosinophils in all samples.

In cases of miliaria rubra, Gram stain showed the presence of staphylococci, and Giemsa stain showed the presence of monocytes in all samples.

In cases of impetigo neonatorum, Gram stain revealed the presence of staphylococci and Giemsa stain revealed the presence of polymorphs in all samples.

In cases of erythema toxicum neonatorum eosinophils were present (according to Giemsa stain) in the two samples.

TABLE (12)

Microscopic findings in samples taken from vesicles in different skin disease.

Number of cases	Skin Disease	KOH Stain	Germ Stain	Giemsa Stain
8	Miliaria crystallina	-Ve in staining	-Ve in staining	-Ve in staining
2	-Primary irritant Contact dermatitis.	-Ve in staining	-Ve in staining	-Lymphocytes.
2	-Congenital candidiasis.	Pseudo hyphae and spores.	-Ve in staining	-Ve in staining
1	Drug eruption	-Ve in staining	-Ve in staining	Eosinophils.

From the previous table we found that the incidence of miliaria crystillina was high (8 cases, representing 57-142% of all cases of vesicular lesions), followed by primary irritant contact dermatitis (2 cases, representing 14.28% of cases) and congenital candidiasis (2 cases, representing 14.28% of cases), then by neonatal candidiasis and *Periporitis staphylogens* (1 case for each, representing 7.14% of cases).

In cases of miliaria crystillina, the samples were negative in staining. In cases of primary irritant contact dermatitis Giemsa stain showed the presence of lymphocytes in the samples. In cases of congenital and neonatal candidiasis KOH stain showed the presence of pseudohyphae in all samples and spores in only one sample. As regards the case of *Periporitis staphylogens* Giemsa stain showed the presence of eosinophils.

TABLE (13)

Microscopic findings in samples taken from bullae in different skin diseases.

Number of Cases	Skin Disease	KOH Stain	Gram Stain	Giemsa Stain
2	Bullous impetigo neo- natorum.	-Ve in staining	Staphylococci	Polymorphs
1	Bullous impetigo neonatorum.	-Ve in staining	Staphylococci and Streptococci.	Polymorphs
1	Sucking blister	-Ve in staining	-Ve in staining	few eosinophils

From the previous table we found that the incidence of bullous impetigo neonatorum was high (3 cases, representing 75% of cases of bullous lesions). Followed by only one case of sucking blister (representing 25%).

In cases of bullous impetigo neonatorum Gram stain showed the presence of staphylococci in all samples and streptococci in only 2 samples, Giemsa stain showed the presence of polymorphs in all samples.

In the case of sucking blister, Gram stain failed to discover any organism and Giemsa stain revealed the presence of few eosinophils.

TABLE (14)

Microscopic findings by the 3 stains in the pustular lesions.

Number of Cases	Disease	KOH Stain	Gram Stain	Giemsa stain
7	Erythema toxicum neonatorum	-Ve in staining	-Ve in staining	Eosinophils
2	Acne neonatorum	-Ve in staining	-Ve in staining	Eosinophils
1	Transient neonatal pustular melanosis.	-Ve in staining	-Ve in staining	Polymorphs and few eosinophils

From the previous table we found that the incidence of erythema toxicum neonatorum was high(7 cases represented 70% of pustular cases), followed by 2 cases of acne neonatorum (20% of pustular cases) and one case of transient neonatal pustular melanosis (10% of pustular cases).

In cases of erythema toxicum neonatorum, Giemsa stain showed the presence of eosinophils in the samples.

In cases of acne neonatorum, Giemsa stain revealed the presence of eosinophils in the samples.

In the case of transient neonatal pustular melanosis, Giemsa stain revealed the presence of polymorphs and eosinophils in the samples.

FIG. (5)

*Distribution of the aetiological categories
in the studied cases*

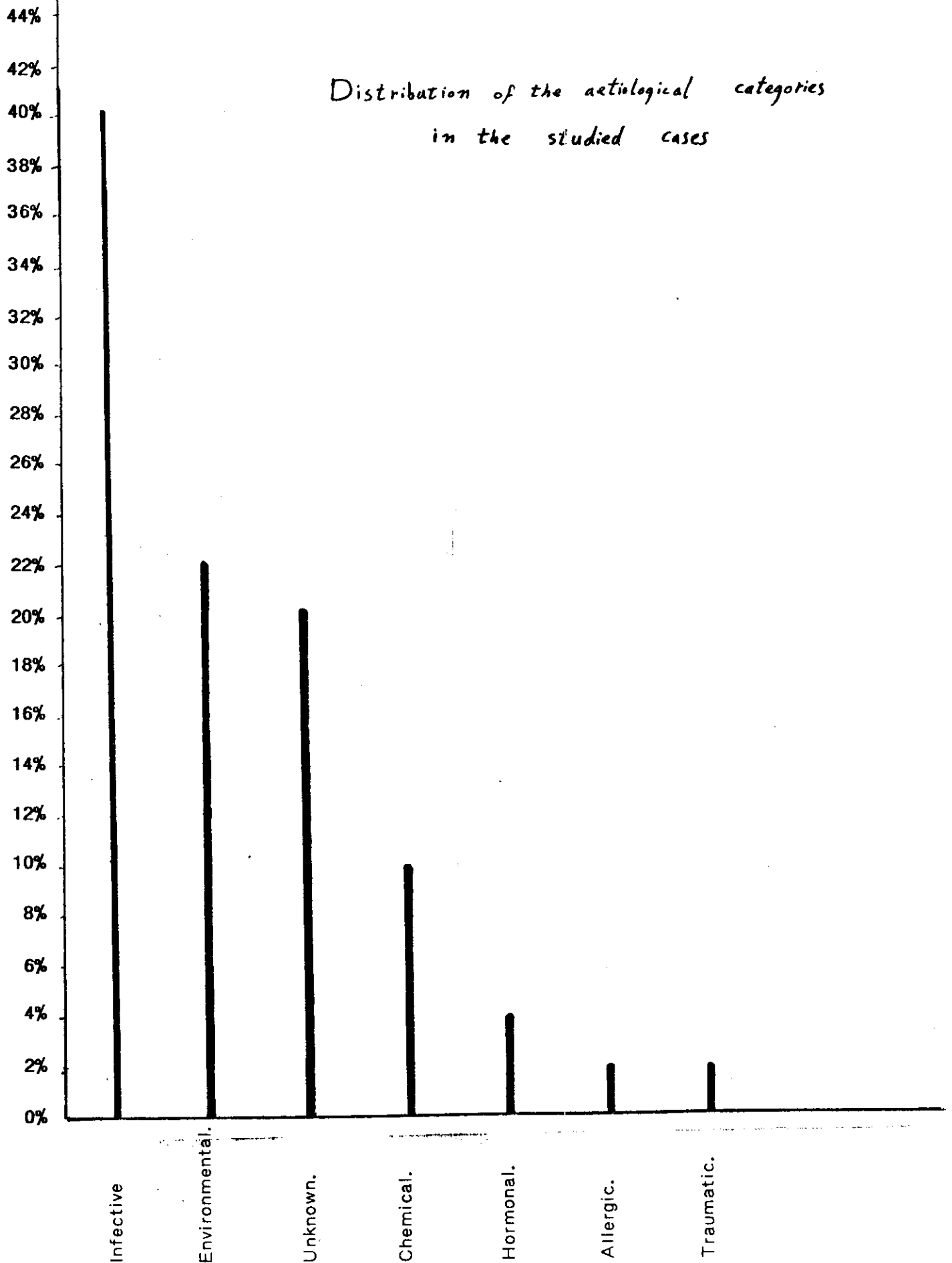


Figure (5) shows the distribution of the aetiological categories in the studied cases:

- A) The infective group contains candidiasis, impetigo neonatorum, and Periporitis staphylogenes was the majority one being 40% of total.
- B) The environmental category (miliaria) represented 22% of total.
- C) The category of unknown aetiology (erythema toxicum and transient neonatal pustular melanosis) represented 20% of total.
- D) The category of chemical aetiology (irritant contact dermatitis) represented 10 % of total.
- E) The category of hormonal aetiology (acne neonatorum) represented 4 % of total.
- F) The category of allergic aetiology (drug eruption) represented 2% of total.
- G) The category of traumatic aetiology (Sucking blister) represented 2% of total.

TABLE (15)

Histopathological findings in six selected cases.

* Serial number	Diagnosis	Histopathological findings
2	Erythema toxicum neonatorum.	The pustule is subcorneal. Eosinophils and neutrophils are scattered among the field.
6	Bullous impetigo neonatorum.	The bulla is beneath the horny layer. It is filled with neutrophils.
12	Transient neonatal Pustular melanosis	The pustule is subcorneal with aggregation of neutrophils and focal basilar hyperpigmentation.
14	Primary irritant contact dermatitis.	Epidermal necrosis. The blister is subepidermal with aggregation of lymphocytes.
18	Neonatal Candidiasis	The blister is subcorneal.
33	Miliaria rubra	The pustules are in continuity with the underlying sweat duct. There are monocytes, neutrophils, eosinophils and staphylococci in the epidermis

* According to Table No. (7).

Table (14) shows the histopathological findings in cases no. 2, 6, 12, 14, 18, 33, that were diagnosed clinically and by the 3 stains as erythema toxicum neonatorum, bullous impetigo neonatorum, transient neonatal pustular melanosis, primary irritant contact dermatitis, neonatal candidiasis and miliaria rubra respectively.



Bullous impetigo neonatorum.



Miliaria rubra.

-140-



Multiple sweat gland abscess
as a complication of periporitis
staphylogens



Congenital candidiasis

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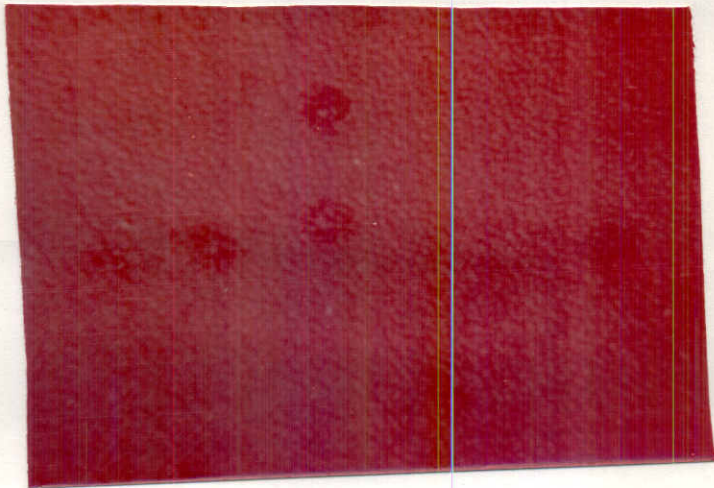


Erythema toxicum neonatorum
without pustules.



Erythema toxicum neonatorum
with pustules.

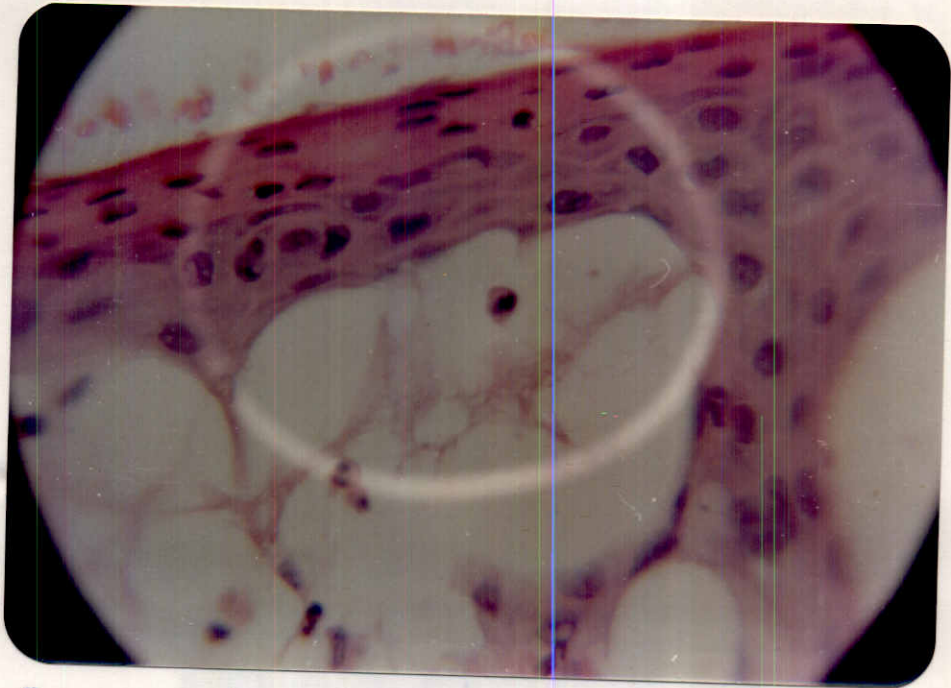
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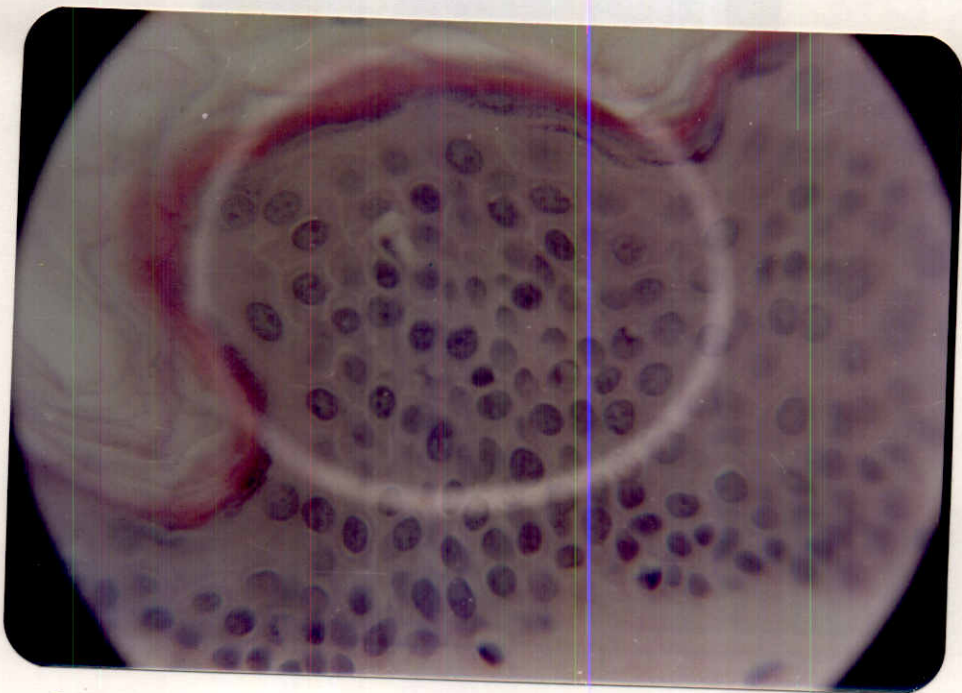
Transient neonatal pustular melanosis

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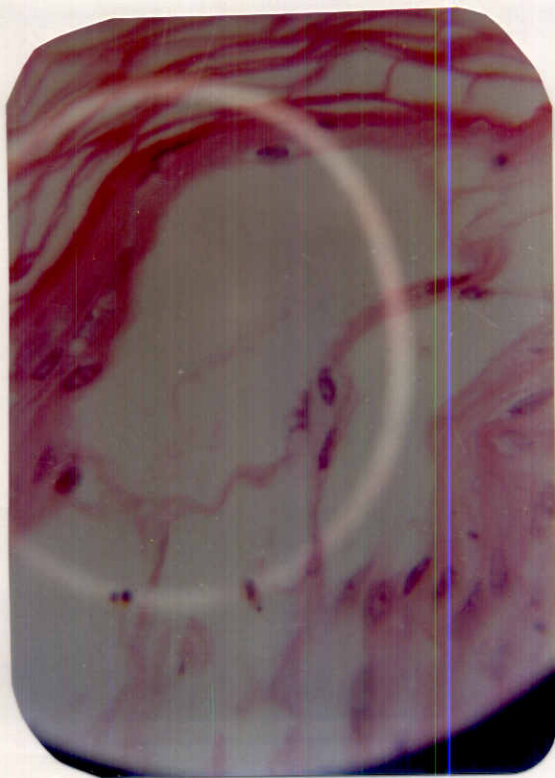
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Intraepidermal blister with spongiosis
of cells in a case of primary irritant
contact dermatitis



Spongiosis of epidermal cells
in a case of Primary irritant
contact dermatitis



subcorneal blister
in a case of neonatal
Candidiasis