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(CASE STUDY)



Effective treatment of leukemia by natural source medicines

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Abstract

A case of leukemia was successfully treated with homoeopathic medicines is presented below. The treatment protocol included medicines according to patient's mind symptoms, disease specific symptoms and modalities. The diagnosis was done by bone marrow aspiration and trephine biopsy followed by regular complete blood count test. Patient is completely recovered from leukemia and is in good health. Clinical trials need to be conducted on this homoeopathic treatment protocol to explore the therapeutic potentials of these medicines for treatment of leukemia.

Keywords: White blood cells; Childhood cancer; Juvenile myelomonocytic leukemia

1. Introduction

Leukemia is group of cancers that mostly initiates in the bone marrow, resulting in high number of abnormal white blood cells that are not fully developed. Leukemia may be classified according to the progression of disease and according to the types of cells involved into four main types: Acute lymphocytic leukemia (ALL), chronic lymphocytic leukemia (CLL), acute myelocytic leukemia (AML), and chronic myelocytic leukemia (CML). The signs and symptoms associated with leukemia are: Frequent infections, anemia, bleeding, easy bruising, red spots on skin, weight loss, night sweats, painless and swollen lymph nodes, bones pain, enlargement of liver and spleen, fatigue and weakness and unexplained fever. Leukemia is diagnosed by detailed case taking, physical examination, blood tests, flow cytometry, lumbar puncture, biopsies and imaging techniques. Allopathic treatment of leukemia includes blood transfusions, antibiotics, chemotherapy, radiotherapy, stem cell transplantation and biological or immune therapy.

Juvenile myelomonocytic leukemia (JMML) is also known as Juvenile chronic myeloid leukemia, chronic granulocytic leukemia, chronic and sub-acute myelomonocytic leukemia and infantile monosomy 7 syndrome. It is an uncommon type of cancer that is diagnosed in infants and children younger than 6 years old. It is more common in males than females [1-2].

Allopathic treatment just suppresses the disease but the homoeopathic system of treatment removes the cause of cancer without the side effects that are caused by aggressive allopathic treatment and provides complete cure to the patients. The homoeopathic medicines mostly used for the treatment of leukemia includes: *Thuja occidentalis*, Alfa alfa, *Kali iodatum*, *Lecithinum*, *Natrum sulphuricum*, *Avena sativa*, *Carcinosinum*, *Thyroidinum*, *Picricum acidum*, *Symphytum*, *Aranea diadema*, *Calcarea phosphoricum*, *Zincum metallicum*, *Urtica urens*, *China officinalis*, *Ferrum picricum*, *Natrum arsenicum*, *carbo vegetabilis*, *Natrum sulphuricum*, *Calcarea fluorica*, *Hekla lava*, *Kali phosphorica*, sulphur, *Carbo animalis*, *Nux vomica*, *Medorrhinum*, *Conium maculatum*, *Echinacea*, *Calcarea iod*, *Lachesis*, *Vanadium*, *Iridium* [3].

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2. Case presentation

A lower uterine segment caesarean section (LSCS) was diagnosed with leukemia at the age of 6 months in patient/subject. He was brought to Dr Mahboob Alam's clinic at the age of 1 year. Before that he had gone through blood transfusion twice. In initial phase of treatment with Dr Mahboob Alam, he went through two more blood transfusions. He had high grade fever; bluish or reddish spots on skin, loss of appetite, umbilical hernia, enlarged lymph nodes and enlarged spleen on initial assessment. The child had no family history of leukemia. Treatment summary is presented in table 1.

Table 1 Treatment profile of patient/subject

Date	Complains	Lab Investigations	Medicines
18-07-2009	High grade fever, complain of sometimes bluish or reddish spots on skin, loss of appetite, umbilical hernia, enlarged lymph node and spleen.		Lachesis 200 (one dose) <i>Arsenicum album</i> 200 <i>Ferrum phosphoricum</i> 12x, <i>Kali muriaticum</i> 3x and <i>Natrum sulphuricum</i> 3x
22-07-2009		20-07-2009 CBC Hb - 8.7, WBC - 14.4, Plt - 22,000	Lachesis 200 (one dose) <i>Arsenicum album</i> 200 (every 5 th day) Haem Mix
30-07-2009	Fever, sneezing		<i>Ferrum phosphoricum</i> 12x, <i>Kali muriaticum</i> 3x and <i>Natrum sulphuricum</i> 12x, <i>Kali phosphoricum</i> 200x <i>Aconite napellus</i> 30
12-08-2009		04-08-2009 Hb - 9.2, WBC - 19.8, N - 30%, L - 46%, E - 1%, M - 18%, Plt - 42 , metamylase - 2%, myelocytes - 2% (Juvenile Myelomonocyte leukemia)	<i>Thuja occidentalis</i> 10M (one dose) <i>Natrum muriaticum</i> 1M (one dose) Haem Mix
22-08-2009	No blood transfusion, sometimes blue spots, presently loose motion		No medicine
24-08-2009			<i>Arnica montana</i> 6 <i>Ipecacuhana</i> 6 12 salts-Cl
26-08-2009		24-08-2009 Hb - 9.7, WBC - 43.2, N - 31%, L - 57%, Myelocytes - 2%	
27-08-2009		Albumin - 17	<i>Arsenicum album</i> 200x <i>Ferrum phosphoricum</i> 12x, <i>Kali muriaticum</i> 3x and <i>Natrum sulphuricum</i> 3x, <i>Natrum muriaticum</i> 200x
04-09-2009		02-09-09 Hb - 10.1, Hct - 30.7, WBC - 26.6, N - 30%, L - 53%, E - 1%, M - 9%, Myelocytes - 2%, Blasts - 4%, Plt - 25.	<i>Arsenicum album</i> 200x <i>Ferrum phosphoricum</i> 12x, <i>Kali muriaticum</i> 3x and <i>Natrum sulphuricum</i> 3x, <i>Natrum muriaticum</i> 200x
05-09-2009			Nitric acid 6
16-09-2009			<i>Ipecacuhana</i> 6, 12 salts-CS12x

19-09-2009		Gap of 1 day in between	Lachesis 200, <i>Arnica montana</i> 200
02-10-2009			Phosphorus 30 <i>Natrum muriaticum</i> 200x
09-10-2009	Fever	03/10/2009 Hb - 9.5, HCT - 300%, WBC - 41.4, N - 24%, L- 6%, E - 1%, Monocytes - 8%, Platelets - 38.	<i>Hepar sulphur</i> 6
22-10-2009		Hb - 8.8, WBC - 34.6, N - 38%, L - 54%, E - 4%, M - 3%, Metamyelocytes - 3%, Myelocytes - 4%, Platelets - 45	<i>Thuja occidentalis</i> 10M, Antipyrine 3x
14-11-2009			Lachesis 200x Antipyrine 3x
09-12-2009			Repeat
16-12-2009		09/12/2009 Hb - 8.1, WBC - 29.1, N - 45%, L - 33%, E - 1%, M - 13%, Meta myelocytes - 41%, Myelocytes - 4%, RBC -3, Plt - 80,	12 Salts-CS12x
21-12-2009			<i>Arsenicum album</i> 30
09-01-2010		04-01-2010 Hb - 7.4, WBC 22.5, N - 32%, L - 38%, E - 3%, Monocytes - 17%, Meta - 4%, Myelocytes - 6%, Plt - 33	Lachesis 1M <i>Arsenicum album</i> 30
25-01-2010			<i>Ipecacuhana</i> 6 12 salts-CS12x
08-02-2010			<i>Arnica montana</i> 6 <i>Rhus toxicodendron</i> 6 Haem mixture
18-02-2010		12-02-2010 Hb-8.7, WBC - 19, N - 29, L - 58%, E - 1%, Monocytes - 12%, RBC - 1, Plt - 57%	<i>Ferrum metallicum</i> 6, <i>China officinalis</i> 6, 12 salts-CS
17-03-2010		15/03/10 Hb - 9.1, WBC - 20.9, N - 26%, L - 65%, E - 4%, M - 3%, Meta myelocytes 4%, Myelocytes - 1%, Platelets - 50	<i>Arsenic album</i> 30 Phosphorus 30 12 salts - CS12X
01-04-2010			Repeat
23-04-2010		Hb - 7.8, WBC - 19.4, N - 27%, L - 48%, M - 3%, Myelocytes - 1%, Plt - 48	Bryonia 6, Phosphorus 30, 12 salts- CS12x
27-04-2010			<i>Arsenic album</i> 30, Phosphorus 30, <i>Ferrum phosphoricum</i> 12x, <i>Kali</i> <i>muriaticum</i> 3x and <i>Natrum</i> <i>sulphuricum</i> 12X
07-05-10		29-04-10 urine D/R Albumin - 64 mg%, Hb - 7.9, WBC - 16.4, N - 38.4, L - 44.9, M - 10.2, Plt - 59	<i>Arsenicum album</i> 30, Phosphorus 30, <i>Ferrum phosphoricum</i> 12x, <i>Kali</i> <i>muriaticum</i> 3x and <i>Natrum</i> <i>sulphuricum</i> 3x, <i>Calcium phosphoricum</i> 6x
09-06-10		08-06-10 Hb - 8.5, WBC - 25.8, N - 35%, L - 56%, E - 04%, M - 05%, Plt - 70	<i>Thuja occidentalis</i> 10M, <i>Arsenicum</i> <i>album</i> 30, Phosphorus 30, <i>Ferrum</i> <i>phosphoricum</i> 12x, <i>Kali muriaticum</i> 3x and <i>Natrum sulphuricum</i> 12x, <i>Calcium</i> <i>phosphoricum</i> 6x

13-06-10			<i>Ipecacuhana</i> 6x, 12 salts
25-06-10		15 days	Benzene 6x
19-07-10		15-07-10 Hb – 8.4, WBC – 23.4, N – 39.9, L – 36.4, M – 22.5, Plt - 105	<i>Arsenicum album</i> 1M (every 4 th day), <i>Lachesis</i> 1M (every 4 th day), 12 Salts-CS 12X
26-07-10			<i>Arsenicum album</i> 1M, <i>Lachesis</i> 1M, <i>Ipecacuhana</i> 6x, 12salts-CS12X
02-08-10			<i>Veratrum album</i> 30, 12 salts-CS
17-08-10			<i>China officinalis</i> 6x, <i>Arsenicum album</i> 30, 12 salts-CS
23-08-10		20-08-10 Hb – 10.6, WBC – 25.2, N – 41%, L – 53%, E – 3%, M – 3%, Plt – 164	No medicine
14-09-10			Repeat
09-10-10		07-10-10 Hb – 8.3, WBC – 21.8, N – 33.4, L – 48.7, Plt - 102	Repeat
27-10-10			<i>Ipecacuhana</i> 6x, 12 salts-CS 12x
16-11-10			<i>Mercurius solubilis</i> 30, <i>Natrum phosphoricum</i> 3x, <i>Calcium sulphuricum</i> 3x
21-12-10		20-12-10 Hb – 7.4, TLC – 18400, Plt – 58000, Blast – 55%	<i>Lachesis</i> 1M, <i>Thuja occidentalis</i> 1M, 12salts-CS12x
22-12-10	Vomiting, abdominal pain		<i>Ipecacuhana</i> 6x, 12salts-CS12x
29-12-10		22-12-10 Hb – 7.9, WBC – 29.3, Plt – 172*10	No medicine
17-01-11			<i>Chelidonium majus</i> 3x, 12salts-CP
02-02-11		31-01-11 Hb – 6.5, WBC – 21.4, N – 52%, L – 29.7%, E – 10%, M – 15.3%, Plt - 53	<i>Lachesis</i> 1M, <i>Chelidonium majus</i> 30, <i>Arsenicum album</i> 30, <i>Ferrum phosphoricum</i> 6x
08-02-11			<i>Ipecacuhana</i> 6x, Benzene 6x
28-02-11	constipation		<i>Nux vomica</i> 6x, Benzene 6x
03-03-11		Hb – 9.2, WBC – 20, N – 44.3%, L – 42.5%, E – 2.6%, M – 10%, Basophils – 0.6%, Plt - 150	<i>Nux vomica</i> 200
17-03-11			Benzene 6x 12 salts-CS12x
02-04-11		31-03-11 Hb-9.6, WBC-14.6%, N-45.3%, L-37.9%, E-1.3%, M-14.9%, Plt-138	Repeat
12-04-11			<i>Arnica montana</i> 6x
07-05-11	Chickenpox 3 days back		<i>Thuja occidentalis</i> 1M, <i>Arsenicum album</i> 30, <i>Ferrum phosphoricum</i> 12x, <i>Kali muriaticum</i> 3x and <i>Natrum sulphuricum</i> 12x
31-05-11		08-05-11 Hb-8.5, WBC-22, N-60%, L-33%, E-3%, M-4%, Plt-160	<i>Mercurius corrosivus</i> 30, <i>Natrum muriaticum</i> 3x, <i>Natrum phosphoricum</i> 3x, <i>Ferrum phosphoricum</i> 6x
23-06-11	Dryness	Hb-8, WBC-15.6, N-45%, L-38.7%, E-2.2%, M-13.6%, Plt-16%	<i>Arsenicum iodatum</i> 30, <i>Ipecacuhana</i> 6x, Fever mixture

11-07-11			Ipecacuhana 6x, Fever mixture
19-07-11	Fever		Baptisia 6x, fever mixture
29-07-11			Antipyrinum 6x, 12-salts-CS 12x
08-08-11		28-07-11 Hb-7.8, WBC-16.2, Plt-195	Baptisia 6, <i>Arsenicum album</i> 200, <i>Ferrum phosphoricum</i> 12x, <i>Kali muriaticum</i> 3x and <i>Natrum sulphuricum</i> 12x
18-08-11			Sulphur 200, Echinacea 6, Fever mixture
26-08-11		24-08-11 Hb-7.3, WBC-18.3, N-47%, L-33%, M-11.2, Plt-146	Sulphur 1M, Baptisia 6, Fever mixture
05-09-11	Severe itching		<i>Natrum muriaticum</i> 1M, <i>Urtica urens</i> 30x
23-09-11		20-09-11 Hb-6.9, WBC-17.7, Plt-145, N-46.6, M-11, L-40.6, E-1.4%	<i>Natrum muriaticum</i> 1M, <i>Urtica urens</i> 30, <i>Ferrum phosphoricum</i> 6x, <i>Calcium phosphoricum</i> 6x
10-10-11			Podophyllum 30x, 12 salts-CS12x
13-10-11	Vomiting		<i>Ipecacuhana</i> 6, 12 salts-CS 12x
28-10-11		Hb-6.2, WBC-12.6, Plt-63	Lachasis 200, <i>Arsenicum album</i> 30
21-11-11		17-11-11 Hb-6.7, WBC-17.3, N-44.4%, L-39%, M-14.8%, Plt-80	<i>Arnica montana</i> 1M, <i>Arsenicum iodatum</i> 30, fever mixture 12x
12-12-11		07-12-11 Hb-9.6, WBC-16, N-39.4%, L-40.3%, Plt-73,	Repeat
18-1-12		16-01-12 Hb-8.7, WBC-10.6, N-50%, L-34%, M-14.5%, Plt-120	Repeat
21-02-12		20-02-17 Hb-9.8, WBC-14.9, N-40%, L-53%, E-3%, M-9%, Plt-100	Repeat
30-03-12		27-03-12 Hb-9.9, WBC-15.4, N-56, L-41%, Plt-18	<i>Calcarea carbonicum</i> 1M, <i>Arsenicum iodatum</i> 30, Fever mixture 12x
10-05-12	Loose motions (5-6), cold, cough	03-05-12 Hb-9.3, WBC-23.6, N-59.9%, L-22.5%, E-0.8%, M-16.9%, Plt-125	<i>Natrum sulphuricum</i> 1M, <i>Ferrum phosphoricum</i> 6x, <i>Mercurius corrosivus</i> 30
16-05-12			Repeat
24-05-12		22-05-12 Hb-9.6, WBC-11.3, N-41.2, L-43.8, E-3.7%, M-10.7%, Plt-188	Repeat
07-06-12			Repeat
28-06-12			<i>Natrum sulphuricum</i> 1M, <i>Ipecacuhana</i> 6, 12 salts-CS 12x
06-07-12		04-07-12 Hb-9.3, WBC-16.3, N-44.4%, L-39.2%, E-4.3%, M-11.9%, Plt-153	Repeat
06-08-12		02-08-12 Hb-9.2, WBC-12.6, N-40.6, L-42.1, Plt-154	Repeat
07-09-12	Cold, fever	04-09-12	<i>Natrum sulphuricum</i> 1M, <i>Artemisia cina</i> 6x,

		Hb-9.1, WBC-13.8, N-53.6%, L-28.8%, E-37%, M-13.5, Plt-159	12 salts-CS 12x
10-10-12		08-10-12 Hb-9.6, WBC-14.4, N-41.6, L-42.5, Plt-111	<i>Natrum sulphuricum</i> 1M, <i>Ferrum metallicum</i> 6x
19-11-12			Repeat
24-12-12		22-12-12 Hb-9.9, WBC-13.2, Plt-151	Repeat
28-01-13		06-01-13 Hb-10, WBC-11.7, Plt-119	Repeat
12-02-13			<i>Arnica montana</i> 1M, <i>Natrum sulphuricum</i> 1M, <i>Ferrum metallicum</i> 6x
20-02-13			<i>Ipecacuhana</i> 6, 12 salts-CS 12x
26-02-13	Dental bite by younger brother		<i>Arnica montana</i> 200, <i>Ledum pal</i> 6
21-03-13		16-03-13 Hb-9.5, WBC-12.6, N-50.7%, L-29.4%, E-2.8%, M-16.9%, Plt-127	<i>Natrum sulphuricum</i> 1M, <i>Ferrum metallicum</i> 200, <i>China officinalis</i> 6
06-05-13			Repeat
23-05-13			<i>Thuja occidentalis</i> 1M, Phosphorus 30
12-06-13		09-06-13 Hb-8.8, WBC-15.6, N-61, L-21.1, E-1.2, M-16.1, B-0.6, Plt-124	<i>China officinalis</i> 1M, <i>Ferrum metallicum</i> 1M, Phosphorus 30
10-07-13		09-07-13 Hb-9.3, WBC-12.3, N-50%, L-38%, E-4%, M-8%, Plt-150	Repeat
31-07-13	Nail fungus		Sulphur 1M, Phosphorus 30
21-08-13			Graphite 200, Phosphorus 30
06-09-13			Repeat
18-09-13		09-09-13 Hb-8.9, WBC-11.7, N-51%, L-31%, E-1.9%, Plt-148	<i>China officinalis</i> 1M, <i>Artemisia cina</i> 6
06-11-13		04-11-13 Hb-8.9, WBC-11.7, N-54%, L-29%, M-13%, Plt-126	Repeat
18-12-13		15-12-13 Hb-10.4, WBC-13.8, Plt-150, N-60%, L-33%	<i>China officinalis</i> 1M, <i>Ferrum metallicum</i> 6x, 12 salts-CS
20-01-14		17-01-14 Hb-10.3, RBC-5.13, WBC-13.6	<i>Arnica montana</i> 1M, <i>China officinalis</i> 1M, <i>Ferrum metallicum</i> 6x, 12 salts
29-01-14			Hepar sulphur 6x, Fever mixture
26-02-14		24-02-14 Hb-9.7, WBC-16.8, N-48.3%, L-32.8%, E-3%, M-15.5%, Plt-180	<i>Thuja occidentalis</i> 10M, <i>Ferrum metallicum</i> 200, <i>Arsenic album</i> 30
02-04-14	cough	01-04-14 Hb-9.6, WBC-10.1, N-51%, L-42%, E-2%	Repeat
12-05-14		11-05-14	Repeat

		Hb-10.3, WBC-14.1, N-51%, L-33%, E-2%, M-8%, Plt-163	
14-06-14		12-06-14 Hb-10.1, WBC-13.7, N-60%, L-30%, E-4%, M-5%, B-1%, Plt-150	<i>Thuja occidentalis</i> 10M, <i>Ferrum metallicum</i> 200, <i>Arsenicum album</i> 30, Fever mixture
06-08-14		05-08-14 Hb-9.6, WBC-9.9, N-53%, L-34%, E-4%, M-9%, Plt-145	<i>Ferrum metallicum</i> 200, <i>China officinalis</i> 200, <i>Artemisia cina</i> 6
18-08-14			<i>Arsenicum album</i> 30, 12 salts
27-09-14			Repeat
15-10-14	Milk teeth did not fell	14-10-14 Hb-9.8, WBC-9.1, Plt-132	<i>Tuber bovinum</i> 10M, <i>Calcarea phosphorica</i> 1M, <i>Ferrum metallicum</i> 6x
24-11-14		23-11-14 Hb-10.9, WBC-11.9, Plt-150	Repeat
15-12-14			<i>Calcarea fluorica</i> 1M, <i>Calcarea phosphorica</i> 1M, <i>Arsenicum album</i> 30
02-01-15	Loose motions		<i>Podophyllum</i> 30, 12 salts
14-01-15			Sulphur 1M, <i>Rhus toxicodendron</i> 200, <i>Mercuris solubilis</i> 30
28-01-15		26-01-15 Hb-9.2, WBC-7.5, Plt-150	<i>China officinalis</i> 6x, <i>Ferrum metallicum</i> 6x, <i>Ferrum phosphoricum</i> 12X, <i>Calcarea phosphorica</i> 12X
13-03-15		06-03-15 Hb-9.8, WBC-12.6, Plt-166	<i>China officinalis</i> 6x, <i>Ferrum metallicum</i> 6x, 12 salts-CS 12x
20-04-15	Pain in left ear, indigestion, fever		Belladonna 6x, Hepar sulphur 6x, Fever mixture 12x
11-05-15	Have fever, left ear wax	06-05-15 Hb-9.3, WBC-10.4, Plt-168	Belladonna 200, Hep Sulphur 200, <i>Ferrum metallicum</i> 6
28-07-15			<i>Ipecacuhana</i> 6, 12 salts-CS 12x
13-10-15			<i>Thuja occidentalis</i> 1M, <i>Ars alb</i> 30
14-12-15	Fever, vomiting, cold	11-12-15 Hb-10, WBC-10.5, N-57.7%, L-23.5%, E-2.9%, M-15.9%, Plt-129	Hepar sulphur 6, <i>Ipecacuhana</i> 6, 12 salts-CS 12x
21-12-15	Tonsillitis, weakness, diarrhea		Hepar Sulphur 6x, <i>Ipecacuhana</i> 6x, 12 salts-CS 12x
13-01-16	Sore throat		<i>Natrum sulphuricum</i> 1M, <i>Arnica montana</i> 1M, Kali bichrome 30
24-02-16			<i>Natrum sulphuricum</i> 1M, <i>Arsenicum album</i> 30, 12 salts-CS
11-03-16			Repeat
26-03-16	Vomiting, diarrhea		<i>Ipecacuhana</i> 6, 12 salts-CS 12X
31-03-16		30-03-16 Hb-9.9, WBC-9.6, M-17%, Plt-184	<i>Artemisia cina</i> 1M, <i>China officinalis</i> 1M, <i>Ferrum metallicum</i> 6x
11-05-16			Sulphur 1M, Hepar sulphur 200, Condrongo 3x
17-06-16			Repeat
18-08-16			Repeat

02-09-16			Gelsemium 200, <i>Arsenicum iodatum</i> 30, 12 salts-CS 12x
08-09-16		02-09-16 Hb-10, ESR-50, TLC-9000, Plt-190,000, urine D/R – pus cells 1-2, Epithl cells-occasional	Ipecacuhana 6x, 12salts-CS 12x
15-12-16			<i>Blata orientalis</i> 3x, Phospho 30
28-03-17		25-03-17 Hb-10.2, WBC-8.7, Plt-143	<i>Natrum sulphuricum</i> 1M, Condango 200, <i>Berberis aquifolia</i> 6x
22-05-17			<i>Arnica montana</i> 200, <i>Staphysigaria</i> 200, <i>Bryonia</i> 6x
23-06-17	Sore throat, fever, cough		<i>Natrum sulphuricum</i> 1M, <i>Baptasia</i> 6, <i>Blata orientalis</i> 3x, fever mixture
10-10-17		06-10-17 Hb-10.7, WBC-7.8, N-46.7, L-33.7, M-15.3, Plt-152	Ipecacuhana 6, 12 salts-CS-12x
12-10-17			<i>Mercurius corrosivus</i> 30, <i>Natrum phosphoricum</i> 3x, <i>Magnesium phosphoricum</i> 3X, <i>Ferrum phosphoricum</i> 12x, <i>Kali muriaticum</i> , <i>Natrum sulphuricum</i> 3x (in hot water)
12-12-17			Hepar sulphur 6x, <i>Bryonia</i> 6x, <i>Arsenicum album</i> 200, 12 salts

Hb – Hemoglobin; WBC – White blood cells; N – Neurophils; L - Lymphocytes ; M – Monocytes; Plt – Platelets; TLC – Total Leucocytes Count; ESR – Erythrocyte Sedimentation Rate; E – Esonophils; B – Basophils; Blast – Blastocytes.

3. Discussion

According to Chan *et al.* 2009 and Hasle *et al.* 1995, Juvenile myelomonocytic leukemia (JMML) is a very rare myelodysplastic or myelo-proliferative disorder with an incidence rate of 1.2 per million children per year [4-5]. The common symptoms found in patients suffering from JMML includes fever, infection, pallor, lymphadenopathy, hepatosplenomegaly, cutaneous lesions including eczematous eruptions, erythematous maculopapules, and multiple juvenile xanthogranulomas, and hemorrhagic manifestation. Allopathic treatment includes chemotherapy and bone marrow transplantation. As reported by Niemeyer *et al.* 1997, it is generally observed that JMML is an aggressive and fatal disorder if left untreated with the median survival time of children who do not receive an allograft may be as short as 10 to 12 months [6].

Homoeopathic remedies facilitated in complete cure of leukemia. Homoeopathic remedies facilitated in improving the general well-being and vitality of the patient. Antipyrinum was prescribed to decrease in number of immature white blood cells in blood stream. *Mercurius solubilis* was given to decreases the high count of white blood corpuscles. *Natrium sulphur* was given due to its effectiveness in treating lymphatic leukemia. Psorinum was given as child was feeling chilly, weak, having low-grade fever, severe bone pains and generalized body ache. Phosphorus was prescribed for treatment of lymphadenopathy and ecchymotic patches all over the body associated with leukemia. *Natrum muriatum* was used to remove anemic condition. *Kali phosphoricum* was prescribed to strengthen the nerves and improves mental symptoms of patients. Lachesis was prescribed to treat the deranged blood system due to disease condition. China was prescribed due to its usefulness in relieving distention of abdomen and restoring health after long disease. *Rhus toxicodendron* was prescribed due to its pain relieving effects. *Kali muriaticum* is a tissue salt found in muscles, blood corpuscles, inter-cellular fluids and nerve and brain cells. It is also found in earth mineral form as carnalite. *Kali muriaticum* was given to treat lethargic condition, characterized by inadequate digestion of food and poor elimination of waste products. Sulphur and Thuja were prescribed as they facilitate in removing psora and sycosis complication from the body of the patient. *Arsenicum album* is an effective medicine for treatment of gastrointestinal disorders like diarrhea. *Ferrum phosphoricum* helped in alleviating inflammations, fatigue and weakness, low or mild fever. *Natrium sulphuricum* draws out water from the blood, as transudate in air alveoli or air spaces. It is also known as a water eliminator produced from the breakdown of lactic acid to carbonic acid and water; it was therefore prescribed due to its effectiveness in treating leukemia. *Aconitum napellus* aids in reducing anxiety. *Arnica montana* was given due to its anti-inflammatory and tissue healing properties. Ipecachuana possess anti-emetic action and was prescribed to relieve vomiting. Nitric acid was given due to its effectiveness in alleviating excessive general weakness, extreme sensitivity

and nervous trembling. Patient's pain, feeling of physical and mental illness, anemia and emaciation were observed to be markedly removed by Nitric acid. Phosphorus facilitated in treatment of bluish spots and thrombocytopenia. *Hepar sulphur* helped in alleviating cough and chills. *Ferrum metallicum* was preferably prescribed for the treatment of anemia. Bryonia was given as an emetic. *Calc phosphoricum* is a central remedy for growth and development. It boosts an immune system. *Arsenic iodatum* was prescribed due to its effectiveness in treatment of leukemia. Baptisia helped in relieving fever, chills and boosting the immune system Echinacea is an immune-stimulator and was given for treatment of leukemia as well as for reducing common cold symptoms. *Urtica urens* relieved itching symptom. *Mercurius corrosivus* treated diarrheal condition.

4. Conclusion

The patient is completely cured. The child is now healthy and living a normal life on occasional feedback taken from his parents. Further clinical trials need to be carried out for validation of this treatment protocol.

Compliance with ethical standards

Acknowledgments

The authors acknowledge the permission given by parents of the patient for conducting this case study.

Disclosure of conflict of interest

All authors declare that they have no conflict of interest.

Statement of ethical approval

The study was approved by the Institutional Ethics Committee of Jinnah Post Graduate Medical, Karachi.

Statement of informed consent

Informed consent was obtained from the parents of the subject. The subject/patient's parents were assured of the confidentiality and anonymity of the information.

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