

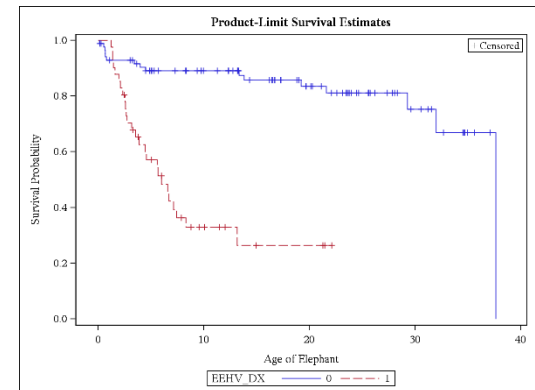
NORTH AMERICAN EEHV EPIDEMIOLOGY: BY THE NUMBERS



A QUICK REVIEW

Ramiro Isaza

DVM, MS, MPH, DACZM, DECZM



“AT-RISK” DEFINITION

Asian elephant, captive born in
the US or Canada between
1978-2018

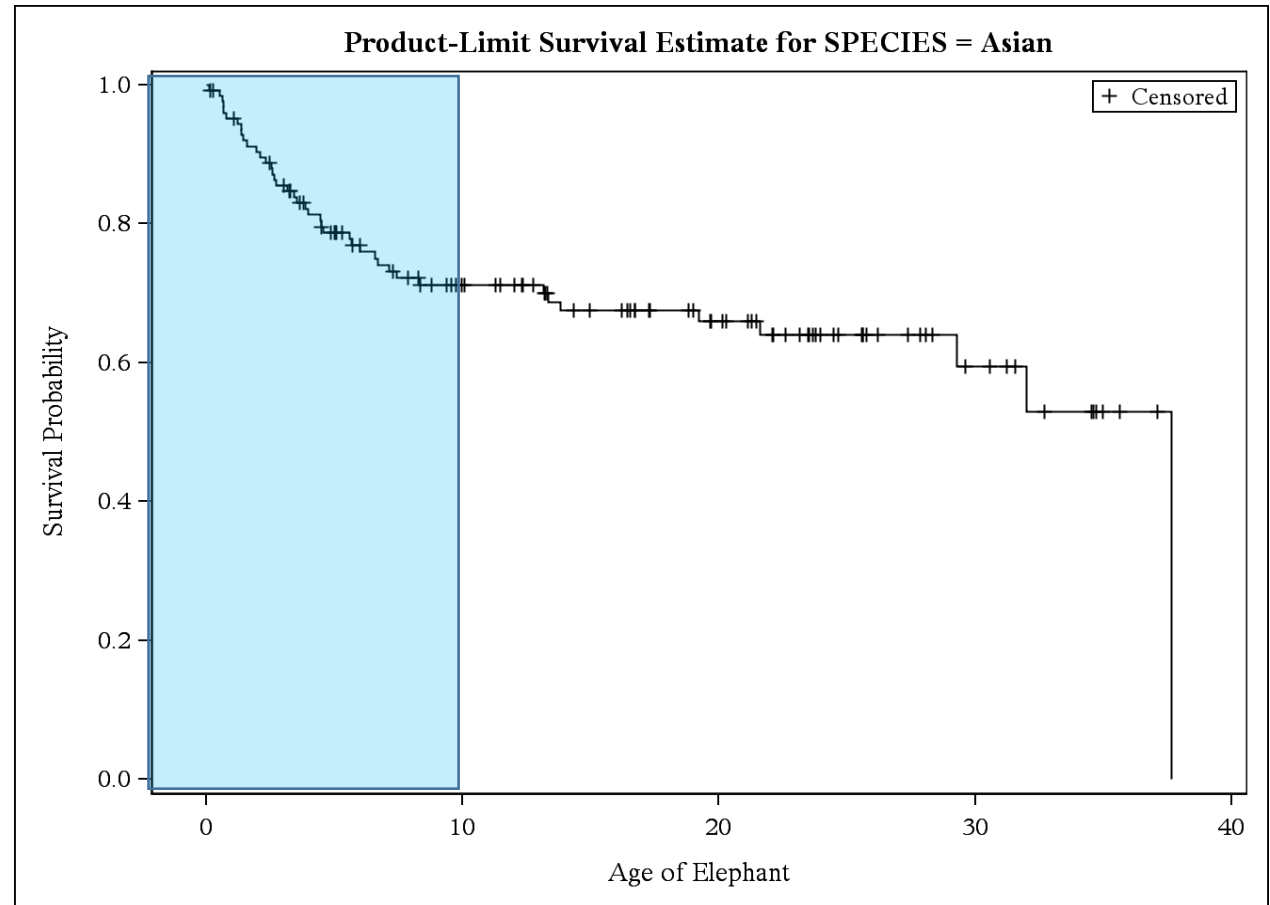
127 calves at-risk,
with 42/127 (**33%**) all-cause
mortality

CALVES AT-RISK IN THE POPULATION

Grand Total		127
Asian	Alive	85
	Dead	42

KAPLAN-MEIER GRAPH

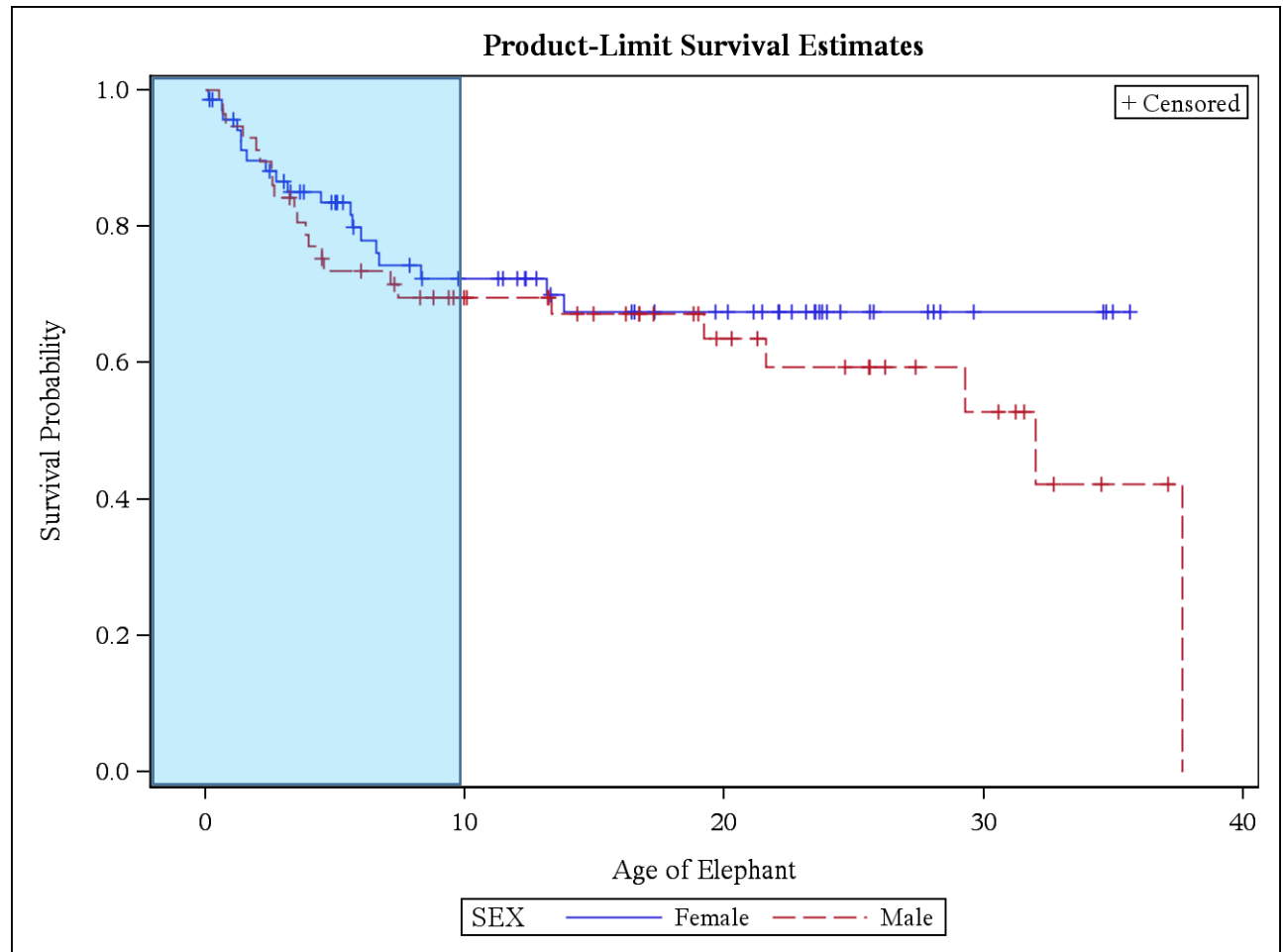
Notice the steep mortality before 10 years of age



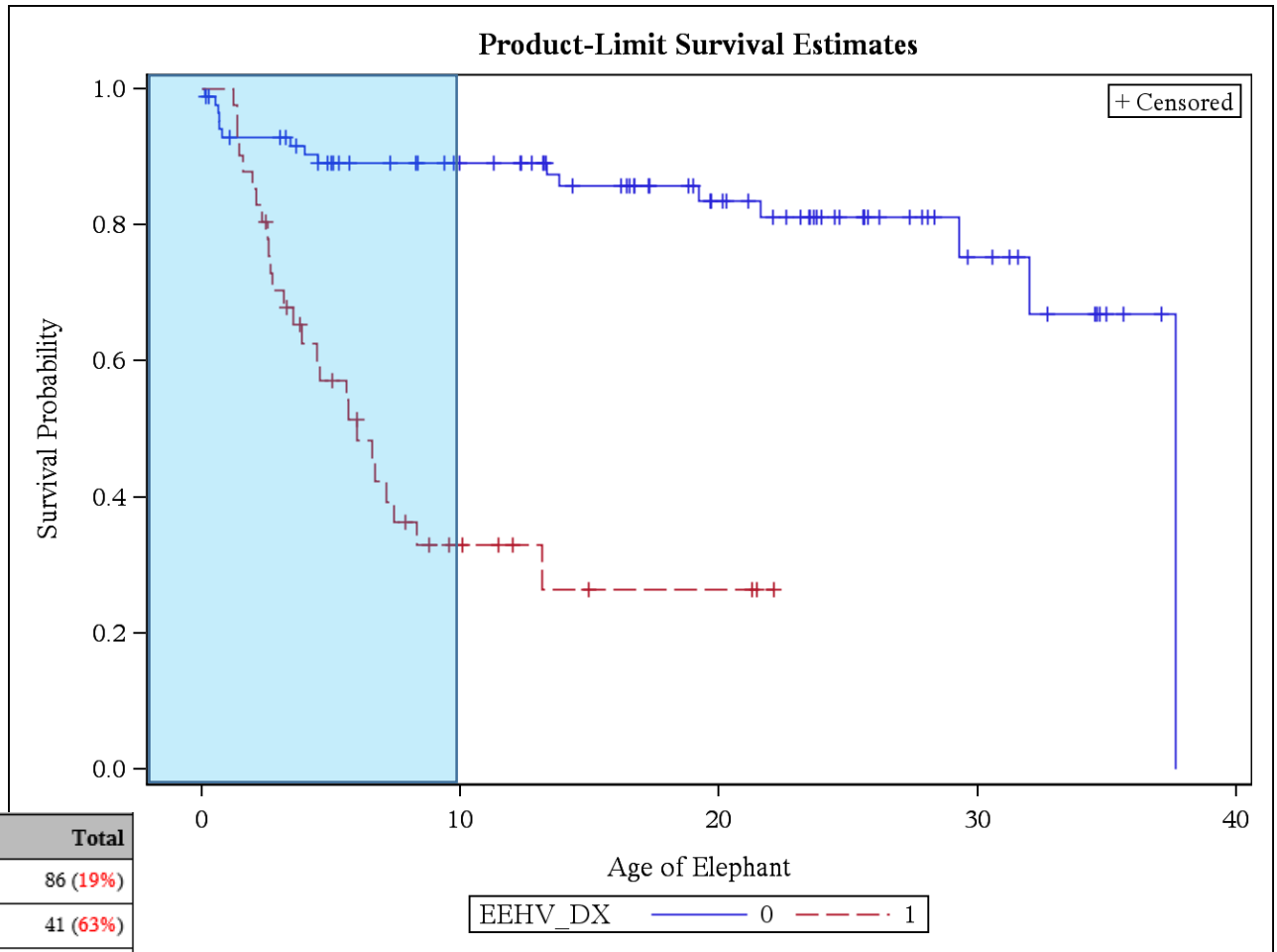
There is no difference
in all cause mortality
between genders
($p=0.59$)

SPECIES=Asian

Gender		
SEX	Frequency	Percent
Female	70	55.12
Male	57	44.88



Death rate in the EEHV infected calves (red line) is very steep, and accounts for most of the early age deaths (p=0.0001)

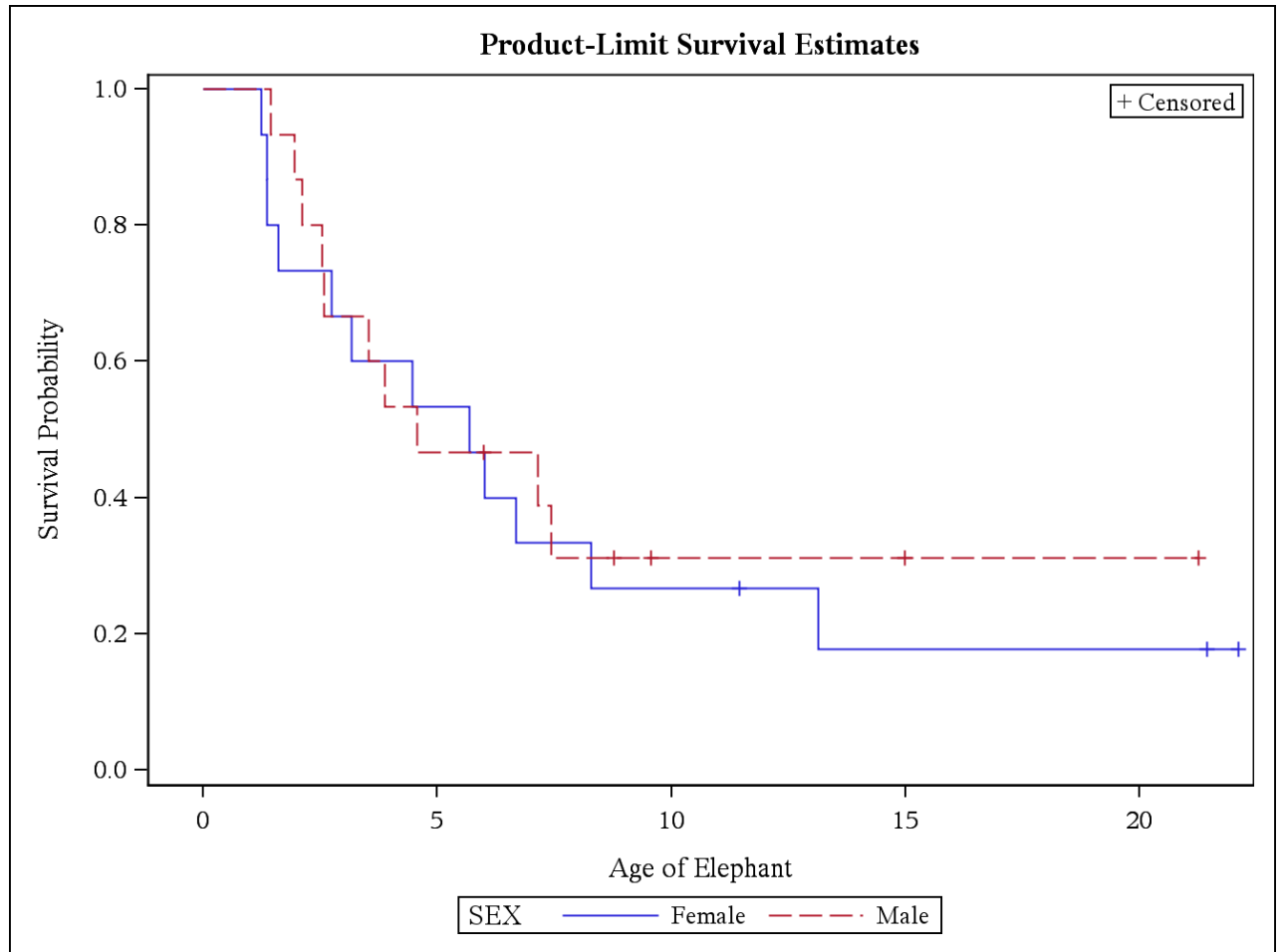


	Alive	Dead	Total
No EEHV Diagnosis	70	16	86 (19%)
EEHV Cases	15	26	41 (63%)
Total	85	42	127

In calves that are “sick” (hemorrhagic) there is a difference in death rates from calves infected with different types of EEHV

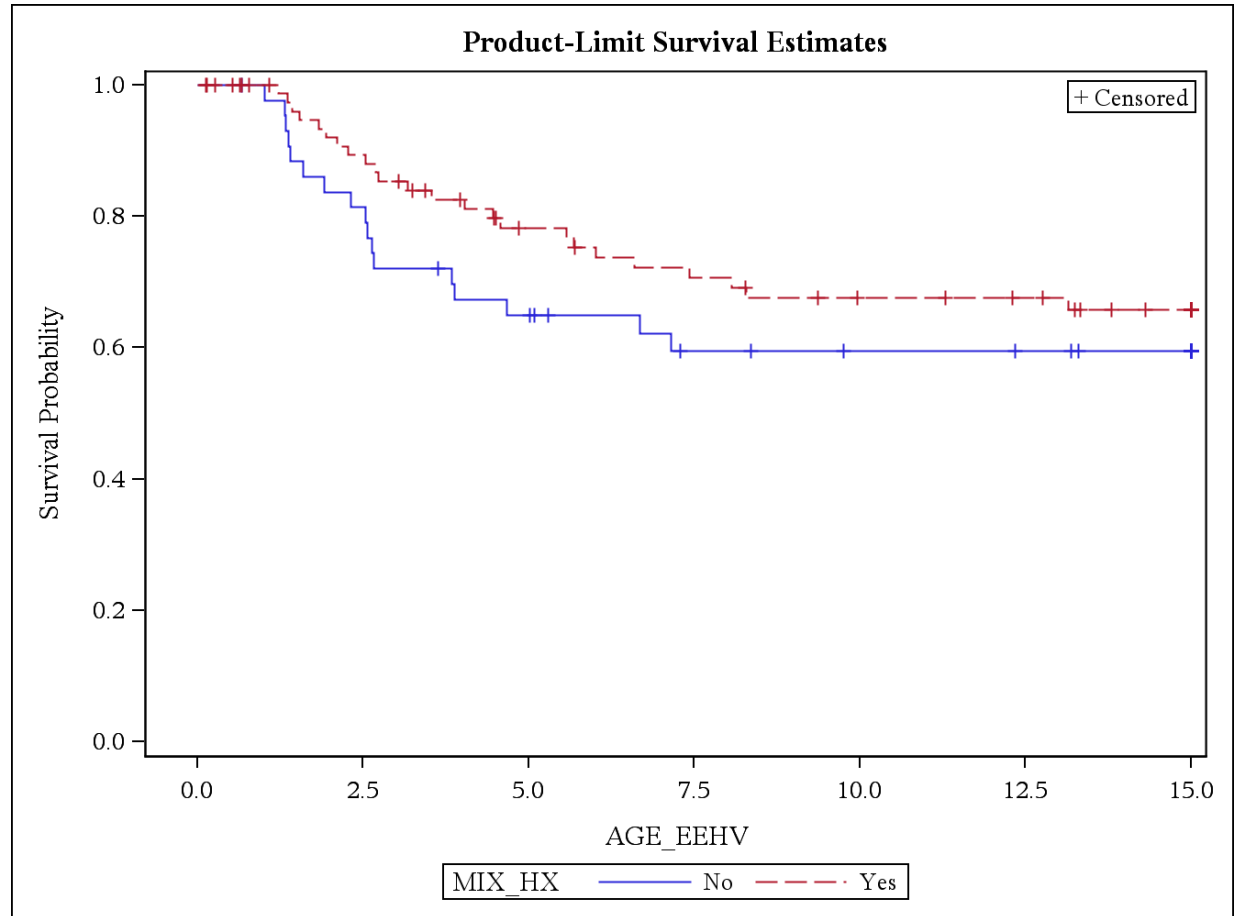
EEHV MORTALITY (1978-PRESENT) BY EEHV TYPE

	Eehv Type (group)				
Dead	EEHV 1	EEHV1B	EEHV3A	EEHV4	Grand Total
Grand Total	35	4	1	1	41
Alive	12	3			15
Dead	23	1	1	1	26
	(66%)	(25%)	(100% ?)	(100% ?)	

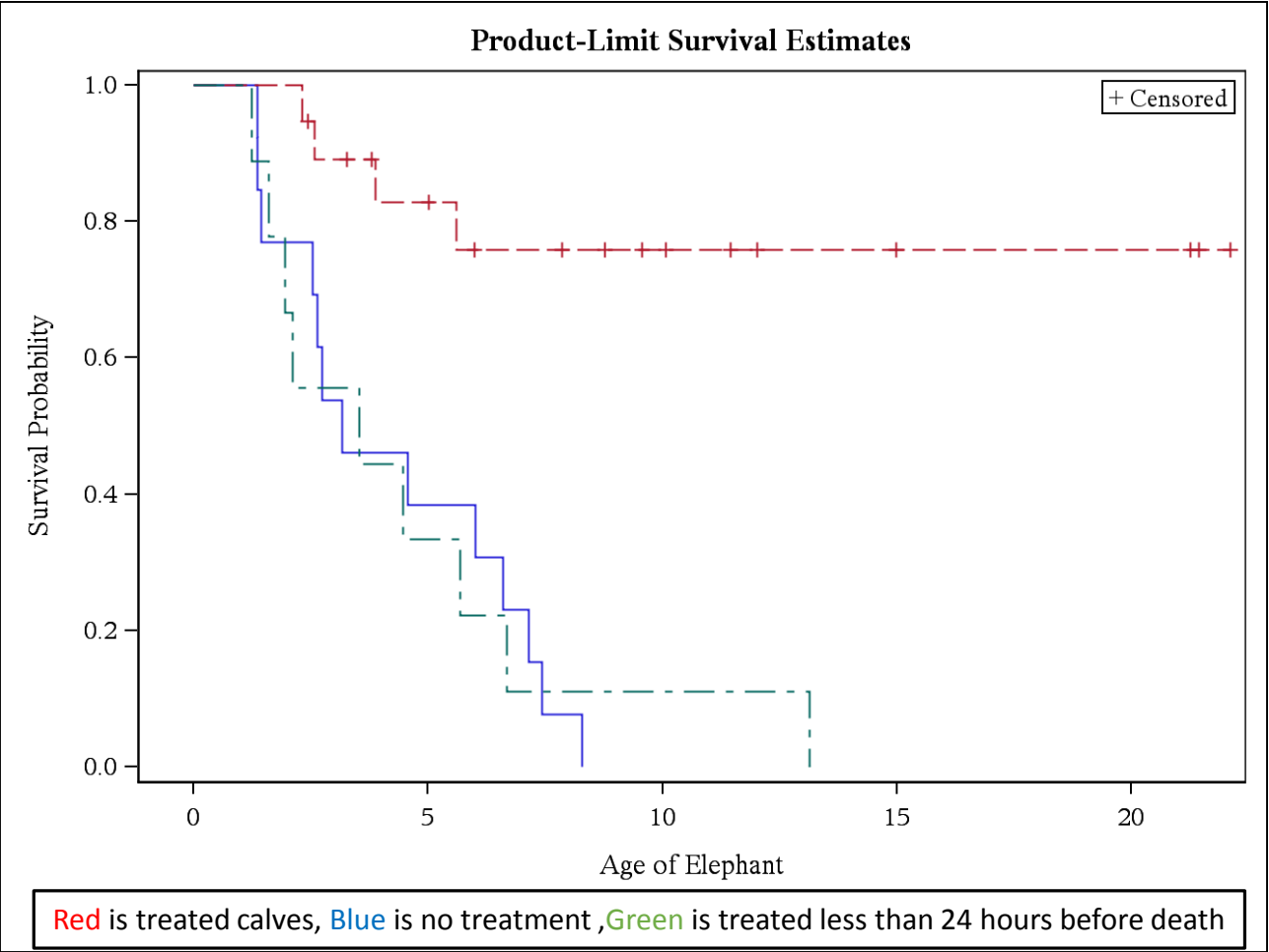


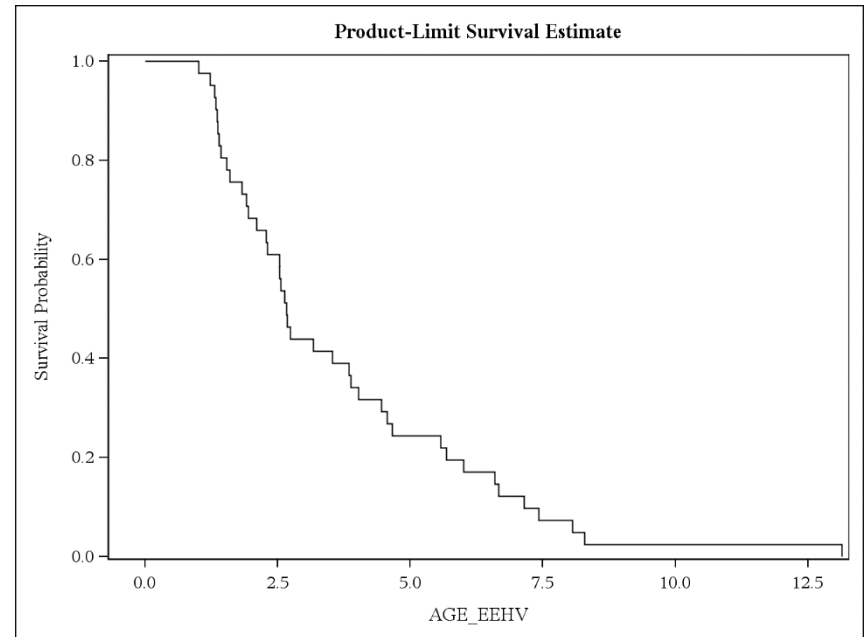
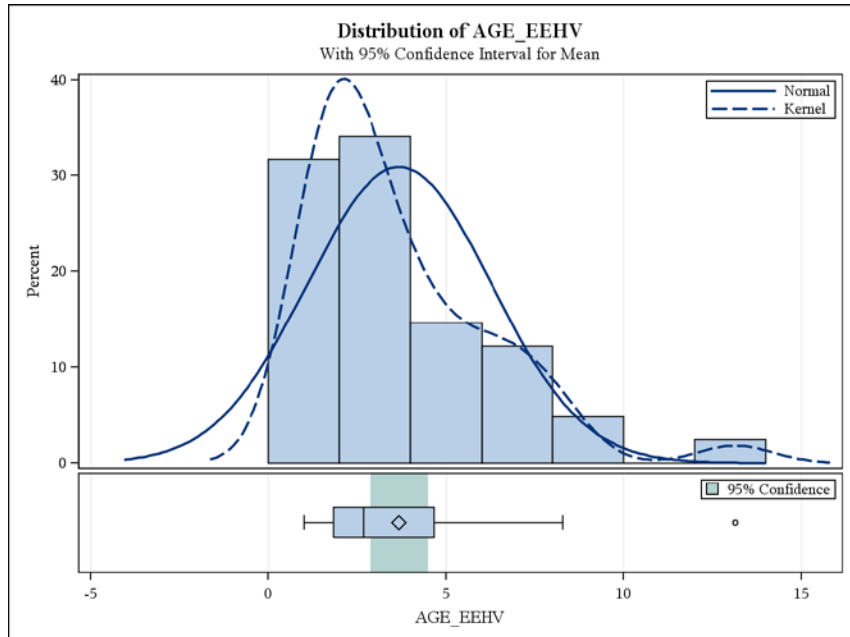
Both males and females were affected equally with EEHV-HD ($p=0.67$)

Living (“mixed”) with African elephants had no effect on risk of EEHV-HD in calves (p=0.18)



Effect of treatment on survival			
	Alive	Dead	Total
No Treatment	0	13	13 (100%)
Treatment	15	13	28 (46%)
	Alive	Dead	Total
No Treatment	0	13	13 (100%)
Treatment	15	4	19 (21%)
Acute death (<24 hrs Tx)	0	9	9 (100%)





Mean	Median	Std Dev	Minimum	Maximum	Lower Quartile	Upper Quartile	Lower 95% CL for Mean	Upper 95% CL for Mean
3.68	2.66	2.58	1.01	13.14	1.83	4.66	2.87	4.50

The median age of EEHV-HD was 2.66 years,
with 75% of the cases occurring between 1.83 and 4.66 years